

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

SYSTEME CEI D'ACCEPTATION MUTUELLE DE CERTIFICATS DESSAIS DES EQUIPEMENTS ELECTRIQUES (IECEE) METHODE OC

CB TEST CERTIFICATE CERTIFICAT D'ESSAI OC

Product
Produit

Notebook Computer

Name and address of the applicant
Nom et adresse du demandeur

Compal Electronics, Inc.
No. 581, Ruiguang Rd., Neihu District
Taipei City 11492
Taiwan

Name and address of the manufacturer
Nom et adresse du fabricant

Compal Electronics, Inc.
No. 581, Ruiguang Rd., Neihu District
Taipei City 11492
Taiwan

Name and address of the factory
Nom et adresse de l'usine

Note: When more than one factory, please report on page 2
Note: Lorsque il y plus d'une usine, veuillez utiliser la deuxième page

☒ Additional information on page 2

Ratings and principal characteristics
Valeurs nominales et caractéristiques principales

3.42A or 4.74A 19Vdc (for model BL1.);
3.42A 19Vdc (for model CW20; VBL30; VBL31)
Cl. III

Trademark (if any)
Marque de fabrique (si elle existe)

Compal

Type of Manufacturer's Testing Laboratories used
Type de programme du laboratoire d'essais constructeur

Model / Type Ref.
Ref. De type

BL1.; CW20; VBL30; VBL31

Additional information (if necessary may also be reported on page 2)
Les informations complémentaires (si nécessaire, peuvent être indiqués sur la deuxième page

The dot "." in the model name can be 0 or 1, denote different power consumption.

☐ Additional information on page 2

A sample of the product was tested and found to be in conformity with

Un échantillon de ce produit a été essayé et a été considéré conforme à la

IEC 60950-1(ed.2);am1

As shown in the Test Report Ref. No. which forms part of this Certificate

226382

Comme indiqué dans le Rapport de tests numéro de référence qui constitue partie de ce Certificat

This CB Test Certificate is issued by the National Certification Body
Ce Certificat de test OC est établi par l'Organisme **National de Certification**



Gaustadalléen 30
NO-0373 Oslo, Norway

Hanne Yndestad

Date: 30-11-2012

Signature: Hanne Yndestad
Certification Department

Compal Electronics Technology (Kunshan) Co., Ltd.
No. 25, Third Avenue, A Zone, Kunshan Comprehensive
Free Trade Zone, Kunshan, Jiangsu
China

Compal Information Technology (Kunshan) Co., Ltd.
No.58, First Avenue, A Zone, Kunshan Comprehensive
Free Trade Zone, Kunshan, Jiangsu
China

Compal (Vietnam) Co., Ltd.
Ba Thien Industrial Zone, Ba Hien Commune
Binh Xuyen County, Vinh Phuc Province
Viet Nam

Compal Information (Kunshan) Co. Ltd.
No. 15, Third Avenue, A Zone, Kunshan Comprehensive
Free Trade Zone, Kunshan, Jiangsu
China

COMPALEAD ELETRÔNICA DO BRASIL INDÚSTRIA E
COMÉRCIO LTDA.
RUA KANEBO 175, GALPÕES C1, C2, C3, C4, C5 C6 E
C12, BAIRRO DISTRITO INDUSTRIAL JUNDIAÍ
BUSINESS PARK, CEP 13213-090, JUNDIAÍ, SÃO
PAULO
Brazil

Additional information(if necessary)
Information complémentaire (si nécessaire)



Gaustadalléen 30
NO-0373 Oslo, Norway

Date: 30-11-2012

Hanne Yndestad

Signature: Hanne Yndestad
Certification Department



Test Report issued under the responsibility of



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TEST REPORT IEC 60950-1 Information technology equipment – Safety – Part 1: General requirements	
Report Number	226382
Date of issue	November 30, 2012
Total number of pages	78 pages and refer to page 3
CB Testing Laboratory	Nemko Taiwan Phone: (+ 886) 2 8797 8790
Address	5Fl., No. 409, Sec. 2, Tiding Blvd, Neihu, Taipei 114, Taiwan
Applicant's name	Compal Electronics, Inc.
Address	No.581, Ruiguang Rd., Neihu District, Taipei City 11492, Taiwan
Manufacturer's name	Compal Electronics, Inc.
Address	No.581, Ruiguang Rd., Neihu District, Taipei City 11492, Taiwan
Test specification:	
Standard	IEC 60950-1: 2005 (2nd Edition); Am 1: 2009
Test procedure	CB Scheme
Non-standard test method	N/A
Test Report Form No.	IEC60950_1C
Test Report Form(s) Originator	SGS Fimko Ltd
Master TRF	Dated 2012-08
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Test item description	Notebook Computer
Trade Mark	Compal
Manufacturer	See above
Model/Type reference	1) BL1. 2) CW20 3) VBL30; VBL31 (The dot "." in the model name can be 0 or 1 to denote different power consumption)
Ratings	1) 3.42A or 4.74A 19Vdc 2) 3.42A 19Vdc 3) 3.42A 19Vdc

This Test Report, when bearing the Nemko name and logo is only valid when issued by a Nemko laboratory, or by a laboratory having special agreement with Nemko.

Testing procedure and testing location:		
☒	CB Testing Laboratory:	Nemko Taiwan
Testing location/ address..... :		5 Fl., No. 409, Sec.2, Tiding Blvd., Neihu, Taipei 114, Taiwan
☐	Associated CB Laboratory:	
Testing location/ address..... :		
Tested by (name + signature)..... :		Ralph Lai 
Approved by (name + signature)..... :		Richard Ho 
☐	Testing procedure: TMP	
Testing location/ address..... :		
Tested by (name + signature)..... :		
Approved by (name + signature)..... :		
☐	Testing procedure: WMT	
Testing location/ address..... :		
Tested by (name + signature)..... :		
Witnessed by (name + signature)..... :		
Approved by (name + signature)..... :		
☐	Testing procedure: SMT	
Testing location/ address..... :		
Tested by (name + signature)..... :		
Approved by (name + signature)..... :		
Supervised by (name + signature)..... :		
☐	Testing procedure: RMT	
Testing location/ address..... :		
Tested by (name + signature)..... :		
Approved by (name + signature)..... :		
Supervised by (name + signature)..... :		

List of Attachments (including a total number of pages in each attachment):

1. Photos (17 pages)
2. European Group difference and national differences (17 pages)
3. Korean differences (1 page)
4. Canadian differences (6 pages)
5. US differences (8 pages)
6. Germany difference (VDE 0805-1:2011-01) (1 page)
7. Israel differences (4 pages)

Additional National differences according to IEC 60950-1 2nd.:

8. Australian / New Zealand differences (8 pages)

Additional National differences according to IEC 60950-1 1nd.:

9. Singapore differences (3 pages)
10. Japan differences (12 pages)

Attachment UL/Demko CB test certificate / report (DK-18574 / E236872-A159-CB-1) of Li-Ion battery pack, Sony Taiwan type BATBLB3L61; BATBLB3L62

Attachment TUV SUD CB test certificate / report (SG-OF-05271 / 081-110111-000) of Li-Ion battery pack, Celxpert type BATBL10L61

Attachment TUV SUD CB test certificate / report (SG-OF-05291 / 081-110120-000) of Li-Ion battery pack, Celxpert type BATBL10L62

Attachment UL CB test certificate / report (DK-6074 / E217462-A233-CB-1) of Li-Ion battery pack, Celxpert type BATBL10L60

Summary of testing:	
Tests performed (name of test and test clause): 1.6 Power interface 1.7 Marking and instructions 2.5 Limited power sources 3.5 Interconnection of equipment 4.2 Mechanical strength 4.3 Design and construction 4.5 Thermal requirements 4.6 Openings in enclosures 4.7 Resistance to fire 5.3 Abnormal operating and fault conditions Annex A Annex A, TESTS FOR RESISTANCE TO HEAT AND FIRE <u>Operation condition:</u> The unit is running white pattern on LCD display and adjustment of brightness is set to maximum. Sending/receiving data to all I/O port (including HDD, SSD or ODD). For USB2.0 ports, loaded to 0.5A for each port; for USB3.0 ports, each port loaded to 0.9A. Speaker is at max. volume. The empty battery pack is charging at the same time.	Testing location: See page 2
Radio and television interference suppression compliance with the EMC directive is necessary for achieving type certification. The appliance shall comply with the relevant EMC standards, depending on the equipment in question. In NO, compliance with standards for radio interference suppression is a part of Nemko's certification. In FI, DK and SE compliance is not necessary for achieving safety certification.	The EUT has not been tested for EMC and must be tested and considered before marketed into the country in which is to be sold.
1.1.2 The unit is operated under altitude up to 3,048m (10,000 feet)	This equipment is intended to be operated under altitude up to 3,048 m (10,000 feet). The power adapters have been evaluated to comply with the requirement.
1.5, 3.2.5 Power supply cord set.	The equipment shall be provided with an approved mains cord set complying with the national regulations of the countries in which the appliance is to be sold.
1.7.2.1, Note 3 Language of safety markings/instructions.	Instructions and equipment marking related to safety is applied in the language that is acceptable in the country in which the equipment is to be sold.

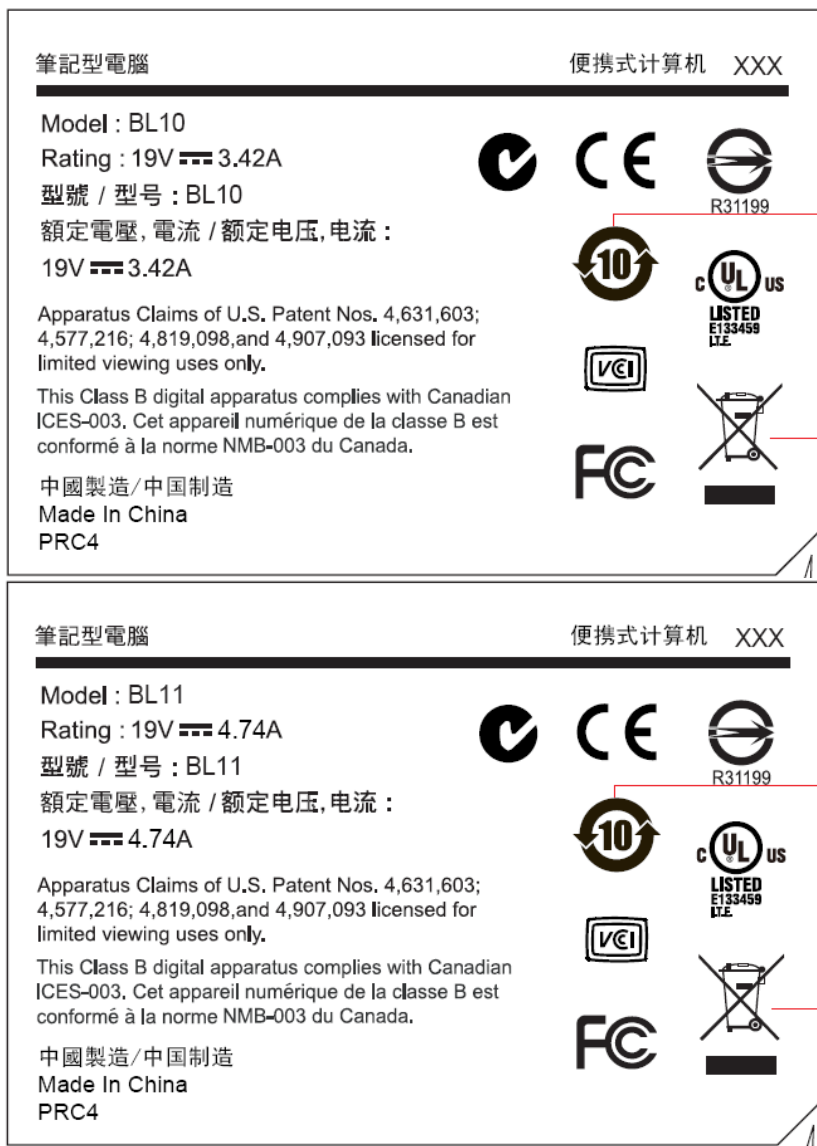
Summary of compliance with National Differences:

The sample(s) tested compliance with the requirements of IEC 60950-1: 2005 (2nd Edition); Am1: 2009 and all CENELEC members as listed in EN 60950-1: 2006 +A11: 2009+A1: 2010+A12:2011.

At the time of issuing this test report, not all countries are listed for IEC 60950-1:2005 (2nd Edition); Am1:2009. Therefore this test report includes national differences for IEC 60950-1: 2001 1st edition and IEC 60950-1: 2005 2nd edition.

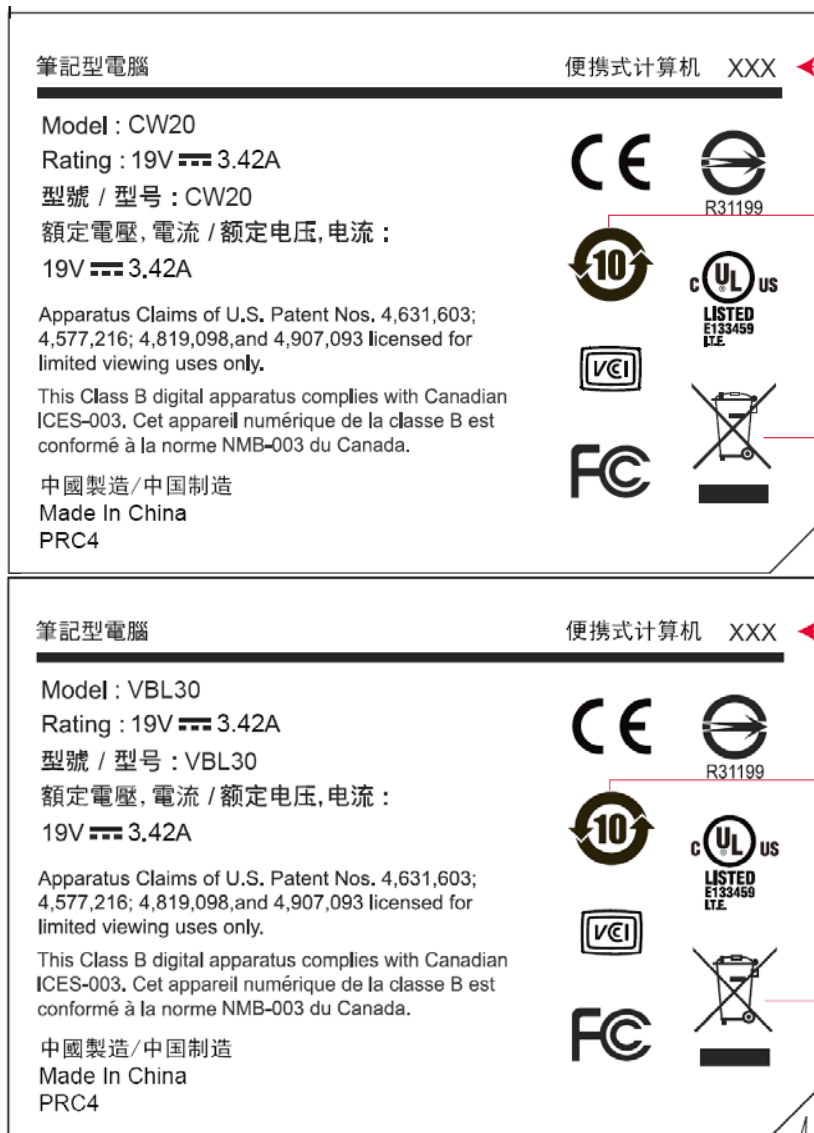
All national differences listed in the IECEE Online CB Bulletin are covered by the Common Modifications, Special National Conditions, National Deviations, and the National Requirements noted above except for the countries which are documented in Attachment. National Differences attached to this test report: refer to List of attachments for details.

Copy of marking plate: The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.



Trade mark "Compal" will be marked on LCD cover enclosure

Copy of marking plate (continued): The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.



Copy of marking plate (continued): The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.



Trade mark "Compal" will be marked on LCD cover enclosure

Test item particulars	
Equipment mobility	☐ movable ☐ hand-held ☒ transportable ☐ stationary ☐ for building-in ☐ direct plug-in
Connection to the mains	☐ pluggable equipment ☐ type A ☐ type B ☐ permanent connection ☐ detachable power supply cord ☐ non-detachable power supply cord ☒ not directly connected to the mains
Operating condition	☒ continuous ☐ rated operating / resting time:
Access location	☒ operator accessible ☐ restricted access location
Over voltage category (OVC)	☒ OVC I ☐ OVC II ☐ OVC III ☐ OVC IV ☐ other:
Mains supply tolerance (%) or absolute mains supply values	N/A
Tested for IT power systems	☐ Yes ☒ No
IT testing, phase-phase voltage (V)	N/A
Class of equipment	☐ Class I ☐ Class II ☒ Class III ☐ Not classified
Considered current rating of protective device as part of the building installation (A)	N/A
Pollution degree (PD)	☐ PD 1 ☒ PD 2 ☐ PD 3
IP protection class	IP20
Altitude during operation (m)	Up to 3,048m
Altitude of test laboratory (m)	Up to 2,000m
Mass of equipment (kg)	Max. 2.2kg Dimensions: 344.0 by 237.5 by 33.3 mm
Possible test case verdicts:	
- test case does not apply to the test object	N/A
- test object does meet the requirement	P (Pass)
- test object does not meet the requirement	F (Fail)
Testing	
Date of receipt of test item	November, 2012
Date(s) of performance of tests	November, 2012

General remarks:

The test results presented in this report relate only to the object tested.

This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

"(see Enclosure #)" refers to additional information appended to the report.

"(see appended table)" refers to a table appended to the report.

Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

Manufacturer's Declaration per sub-clause 6.2.5 of IEC 60950-1:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided: ☒ Yes ☐ Not applicable

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies):

1. Compal Electronics Technology (Kunshan) Co., Ltd.
No.25, Third Avenue, A Zone, Kunshan Comprehensive Free Trade Zone, Kunshan, Jiangsu, China
2. Compal Information Technology (Kunshan) Co., Ltd.
No.58, First Avenue, A Zone, Kunshan Comprehensive Free Trade Zone, Kunshan, Jiangsu, China
3. COMPALEAD ELETRÔNICA DO BRASIL INDÚSTRIA E COMÉRCIO LTDA
RUA KANEBO 175, GALPÕES C1, C2, C3, C4, C5 C6 E C12, BAIRRO DISTRITO INDUSTRIAL JUNDIAÍ BUSINESS PARK, CEP 13213-090, JUNDIAÍ, SÃO PAULO, Brazil
4. Compal (Vietnam) Co., Ltd.
Ba Thien Industrial Zone, Ba Hien Commune, Binh Xuyen County, Vinh Phuc Province, Viet Nam
5. Compal Information (Kunshan) Co. Ltd.
No. 15, Third Avenue, A Zone, Kunshan Comprehensive Free Trade Zone, Kunshan, Jiangsu, China

General product information:

The EUT is a Class III Portable Computer (notebook computer). The unit will be connected to a certified AC/DC adapter, ref. list of critical components.

The unit was configured as follows: CPU (mounted on main board), memory card, HDD (optional), SSD (optional), ODD (optional), LCD panel (with LED back-light module), RTC battery, battery pack and DC fan.

The EUT has following data ports: Audio-in, audio-out port, VGA, HDMI, RJ45, card reader and USB ports (USB2.0 x2, USB3.0 x1 or USB2.0 x3 as alternative).

All models are similar except following differences:

Model	Input rating	Main board / graphic chip	Battery pack
BL10	3.42A 19Vdc	Intel CUP/chip set, UMA type main board (A)	Refer to table 1.5.1
BL11	4.74A 19Vdc	Intel CUP/chip set, Discrete type main board (A)	
CW20	3.42A 19Vdc	AMD CUP/chip set main board	
VBL30	3.42A 19Vdc	Intel CUP/chip set, UMA type main board (B) *)	
		Intel CUP/chip set, UMA type main board (C) *)	
VBL31	3.42A 19Vdc	Intel CUP/chip set, Discrete type main board (B) *)	
		Intel CUP/chip set, Discrete type main board (C) *)	

*) Main board B and C are similar circuit design except South bridge chip set and USB port (USB2.0 or USB3.0).

- All UMA type or Discrete type main boards are similar except graphic chip, test on Discrete type main board to represent all configuration.

Unless otherwise states, tests were performed on model BL10, BL11, CW20 or VBL31, conducted with AC/DC adapter rating 3.42A 19Vdc or 4.74A 19Vdc, with Sanyo battery pack, type BATAW20L62 or Celxpert battery pack type BATBL10L61.

Maximum recommended ambient (T_{mra}): 35°C

Circuit characteristics: The equipment contains secondary (SELV) circuits.

1.1.2 - Additional requirements:

Exposure to extreme temperatures, excessive dust, moisture or vibration; to flammable gases; to corrosive or explosive atmospheres:

This equipment is intended to operate in a "normal" environment (Offices and homes).

Electromedical equipment connected to the patient:

This equipment is not an electromedical equipment intended to be physically connected to a patient.

Equipment used in vehicles, ships or aircrafts, in tropical countries, or at elevations > 2000m:

This equipment is intended to be operated under altitude up to 3,048 m (10,000 feet), so the required clearance is multiplied by the altitude correction factor (1.15, linear interpolation used), specified in table A.2 of IEC 60664-1, 1992+A1: 2000.

Abbreviations used in the report:

- normal conditions	N.C.	- single fault conditions	S.F.C
- functional insulation	FI	- basic insulation	BI
- double insulation	DI	- supplementary insulation	SI
- between parts of opposite polarity	BOP	- reinforced insulation	RI
Indicate used abbreviations (if any)			



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IEC 60950-1/Am1			
Clause	Requirement + Test	Result - Remark	Verdict
1	GENERAL		P
1.5	Components		P
1.5.1	General	See below.	P
	Comply with IEC 60950-1 or relevant component standard	(see appended table 1.5.1)	P
1.5.2	Evaluation and testing of components	Certified components are used in accordance with their ratings, certifications and they comply with applicable parts of this standard. Components not certified are used in accordance with their ratings and they comply with applicable parts of IEC 60950-1 and the relevant component standard. Components, for which no relevant IEC-standard exists, have been tested under the conditions occurring in the equipment, using applicable parts of IEC 60950-1.	P
1.5.3	Thermal controls	No thermal controls.	N/A
1.5.4	Transformers	No isolating transformer in the equipment.	N/A
1.5.5	Interconnecting cables	No interconnecting cables.	N/A
1.5.6	Capacitors bridging insulation	No primary circuit.	N/A
1.5.7	Resistors bridging insulation	1.5.7.1-1.5.7.3: The equipment is regarded as Class III, no such resistor used.	N/A
1.5.7.1	Resistors bridging functional, basic or supplementary insulation		—
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits		—
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable		—
1.5.8	Components in equipment for IT power systems	The equipment is regarded as Class III.	N/A
1.5.9	Surge suppressors	1.5.9.1-1.5.9.5: The equipment is regarded as Class III, no such component used.	N/A
1.5.9.1	General		—

IEC 60950-1/Am1			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.9.2	Protection of VDRs		—
1.5.9.3	Bridging of functional insulation by a VDR		—
1.5.9.4	Bridging of basic insulation by a VDR		—
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		—

1.6	Power interface		P
1.6.1	AC power distribution systems	The equipment is regarded as Class III.	—
1.6.2	Input current	(see appended table 1.6.2)	P
1.6.3	Voltage limit of hand-held equipment	The equipment is not hand-held.	N/A
1.6.4	Neutral conductor	The equipment is regarded as Class III.	N/A

1.7	Marking and instructions		P
1.7.1	Power rating and identification markings	The required marking is located on the outside surface of the equipment.	P
1.7.1.1	Power rating marking	See below.	P
	Multiple mains supply connections.....:	The equipment is regarded as Class III, not connect to the mains.	N/A
	Rated voltage(s) or voltage range(s) (V)	19.5Vdc	—
	Symbol for nature of supply, for d.c. only	IEC 60417-1, symbol No. 5031, is used.	P
	Rated frequency or rated frequency range (Hz) ...	DC supplied.	—
	Rated current (mA or A)	1) 3.42A or 4.74A 19Vdc 2) 3.42A 19Vdc 3) 3.42A 19Vdc	—
1.7.1.2	Identification markings	See below.	P
	Manufacturer's name or trade-mark or identification mark	Compal	—
	Model identification or type reference	1) BL1. 2) CW20 3) VBL30; VBL31	—
	Symbol for Class II equipment only	The equipment is regarded as Class III.	N/A

IEC 60950-1/Am1			
Clause	Requirement + Test	Result - Remark	Verdict
	Other markings and symbols	The additional marking does not give rise to misunderstandings.	P
1.7.2	Safety instructions and marking	The user's manual contains information for operation, installation, servicing, transport, storage, recycling and technical data. The operation guide is provided to the user.	P
1.7.2.1	General	Refer to below:	P
1.7.2.2	Disconnect devices	The equipment is regarded as Class III.	N/A
1.7.2.3	Overcurrent protective device	The equipment is regarded as Class III.	N/A
1.7.2.4	IT power distribution systems	The equipment is regarded as Class III.	N/A
1.7.2.5	Operator access with a tool	All areas containing hazard(s) are inaccessible to the operator.	P
1.7.2.6	Ozone	The equipment not containing Ozone.	N/A
1.7.3	Short duty cycles	The equipment is intended for continuous operation.	N/A
1.7.4	Supply voltage adjustment	No voltage selector.	N/A
	Methods and means of adjustment; reference to installation instructions		—
1.7.5	Power outlets on the equipment	No standard power outlet.	N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference)	The equipment is regarded as Class III.	N/A
1.7.7	Wiring terminals	The equipment is regarded as Class III.	N/A
1.7.7.1	Protective earthing and bonding terminals		N/A
1.7.7.2	Terminals for a.c. mains supply conductors		N/A
1.7.7.3	Terminals for d.c. mains supply conductors		N/A
1.7.8	Controls and indicators	Refer below:	—
1.7.8.1	Identification, location and marking	The function of controls affecting safety is obvious without knowledge of language etc.	P
1.7.8.2	Colours	For functional indication a LED lights when the equipment is	P

IEC 60950-1/Am1			
Clause	Requirement + Test	Result - Remark	Verdict
		operating.	
1.7.8.3	Symbols according to IEC 60417	The functional switch is marked  complies with IEC-60417-5009.	P
1.7.8.4	Markings using figures	No controls affecting safety.	N/A
1.7.9	Isolation of multiple power sources	The equipment is regarded as Class III.	N/A
1.7.10	Thermostats and other regulating devices	No thermostats or other regulating devices.	N/A
1.7.11	Durability	The marking withstands required tests.	P
1.7.12	Removable parts	No marking is placed on removable parts.	P
1.7.13	Replaceable batteries	1) The Lithium (Li-ion) battery cells in the battery pack are not regarded as replaceable. Warning text provided in user's manual and marking plate of battery pack. 2) The Lithium type RTC battery is not replaceable by user. Caution text provided in service and user's manual.	P
	Language(s)	English	—
1.7.14	Equipment for restricted access locations	Equipment not intended for installation in RAL.	N/A

2	PROTECTION FROM HAZARDS		P
2.1	Protection from electric shock and energy hazards		P
2.1.1	Protection in operator access areas	Refer below:	P
2.1.1.1	Access to energized parts	Energized parts are not accessible.	P
	Test by inspection	Complies.	P
	Test with test finger (Figure 2A)	Complies.	P
	Test with test pin (Figure 2B)	Complies.	P
	Test with test probe (Figure 2C)	No TNV circuits.	N/A
2.1.1.2	Battery compartments	No TNV circuits in the equipment.	N/A
2.1.1.3	Access to ELV wiring	The equipment is regarded as Class III.	N/A

IEC 60950-1/Am1			
Clause	Requirement + Test	Result - Remark	Verdict
	Working voltage (V _{peak} or V _{rms}); minimum distance through insulation (mm)		—
2.1.1.4	Access to hazardous voltage circuit wiring	The equipment is regarded as Class III.	N/A
2.1.1.5	Energy hazards	No energy hazard in operator access area. Checked by means of the test finger.	P
2.1.1.6	Manual controls	No shafts of knobs etc. at ELV or hazardous voltage.	N/A
2.1.1.7	Discharge of capacitors in equipment	The equipment is regarded as Class III.	N/A
	Measured voltage (V); time-constant (s)		—
2.1.1.8	Energy hazards – d.c. mains supply	The equipment is not connected to d.c. mains supply.	N/A
	a) Capacitor connected to the d.c. mains supply ..		—
	b) Internal battery connected to the d.c. mains supply		—
2.1.1.9	Audio amplifiers	Audio accessible terminal is tested and complies with 2.1.1.1.	P
2.1.2	Protection in service access areas	Checked by inspection, unintentional contact is unlikely during service operations.	P
2.1.3	Protection in restricted access locations	Equipment not intended for installation in RAL.	N/A

2.2	SELV circuits		P
2.2.1	General requirements	SELV limits are not exceeded under normal condition and after a single fault.	P
2.2.2	Voltages under normal conditions (V)	Within SELV limits.	P
2.2.3	Voltages under fault conditions (V)	Within SELV limits.	P
2.2.4	Connection of SELV circuits to other circuits	SELV circuits are only connected to other SELV circuits.	P

2.3	TNV circuits		N/A
2.3.1	Limits	2.3.1-2.3.5: No TNV circuits.	N/A
	Type of TNV circuits		—

IEC 60950-1/Am1			
Clause	Requirement + Test	Result - Remark	Verdict
2.3.2	Separation from other circuits and from accessible parts		N/A
2.3.2.1	General requirements		N/A
2.3.2.2	Protection by basic insulation		N/A
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions		N/A
2.3.3	Separation from hazardous voltages		N/A
	Insulation employed.....		—
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed.....		—
2.3.5	Test for operating voltages generated externally		N/A

2.4	Limited current circuits		N/A
2.4.1	General requirements	2.4.1-2.4.3: No limited current circuits	N/A
2.4.2	Limit values		—
	Frequency (Hz).....		—
	Measured current (mA)		—
	Measured voltage (V)		—
	Measured circuit capacitance (nF or µF).....		—
2.4.3	Connection of limited current circuits to other circuits		N/A

2.5	Limited power sources		P
	a) Inherently limited output	- Audio-in, audio-out and RJ45 ports are inherently limited, only for signal transmission. - Card reader port is inherently limited, it can only insert the storage cards and covered by fire enclosure when such cards insert to the port. - VGA and HDMI ports are inherently limited, it normally connect to accessory which provide fire enclosure.	P
	b) Impedance limited output		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	c) Regulating network limited output under normal operating and single fault condition	All USB2.0 and USB3.0 ports are limited by power distribution switch. (refer to appended table 2.5).	P
	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA)	(refer to appended table 2.5).	P
	Current rating of overcurrent protective device (A) ..	No such parts used.	N/A
	Use of integrated circuit (IC) current limiters	Integrated circuit (IC) current limiters used for protect USB ports and complies with Annex CC.2 or CC.3.	P

2.6	Provisions for earthing and bonding		N/A
2.6.1	Protective earthing	2.6.1 – 2.6.5.8: The equipment is regarded as Class III.	N/A
2.6.2	Functional earthing		N/A
2.6.3	Protective earthing and protective bonding conductors		N/A
2.6.3.1	General		N/A
2.6.3.2	Size of protective earthing conductors		N/A
	Rated current (A), cross-sectional area (mm ²), AWG		—
2.6.3.3	Size of protective bonding conductors		N/A
	Rated current (A), cross-sectional area (mm ²), AWG		—
	Protective current rating (A), cross-sectional area (mm ²), AWG		N/A
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min)		N/A
2.6.3.5	Colour of insulation.....		N/A
2.6.4	Terminals		N/A
2.6.4.1	General		N/A
2.6.4.2	Protective earthing and bonding terminals		—
	Rated current (A), type, nominal thread diameter (mm)		N/A
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.6.5	Integrity of protective earthing		N/A
2.6.5.1	Interconnection of equipment		N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors		N/A
2.6.5.3	Disconnection of protective earth		N/A
2.6.5.4	Parts that can be removed by an operator		N/A
2.6.5.5	Parts removed during servicing		N/A
2.6.5.6	Corrosion resistance		N/A
2.6.5.7	Screws for protective bonding		N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A

2.7	Overcurrent and earth fault protection in primary circuits		N/A
2.7.1	Basic requirements	2.7.1 – 2.7.6: The equipment is regarded as Class III.	N/A
	Instructions when protection relies on building installation		N/A
2.7.2	Faults not simulated in 5.3.7		N/A
2.7.3	Short-circuit backup protection		N/A
2.7.4	Number and location of protective devices :		N/A
2.7.5	Protection by several devices		N/A
2.7.6	Warning to service personnel..... :		N/A

2.8	Safety interlocks		N/A
2.8.1	General principles	No safety interlock provided.	N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
	Protection against extreme hazard		N/A
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A
2.8.7	Switches, relays and their related circuits		N/A
2.8.7.1	Separation distances for contact gaps and their related circuits (mm) :		N/A
2.8.7.2	Overload test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test		N/A
2.8.8	Mechanical actuators		N/A

2.9	Electrical insulation		N/A
2.9.1	Properties of insulating materials	2.9.1 – 2.9.4: The equipment is Class III equipment and containing SELV circuits, only functional insulation is required, refer 5.3.4.	N/A
2.9.2	Humidity conditioning		N/A
	Relative humidity (%), temperature (°C)		—
2.9.3	Grade of insulation		N/A
2.9.4	Separation from hazardous voltages		N/A
	Method(s) used		—

2.10	Clearances, creepage distances and distances through insulation		N/A
2.10.1	General	2.10.1 – 2.10.12: The equipment is Class III equipment and containing SELV circuits, only functional insulation is required, refer 5.3.4.	N/A
2.10.1.1	Frequency		N/A
2.10.1.2	Pollution degrees		N/A
2.10.1.3	Reduced values for functional insulation		N/A
2.10.1.4	Intervening unconnected conductive parts		N/A
2.10.1.5	Insulation with varying dimensions		N/A
2.10.1.6	Special separation requirements		N/A
2.10.1.7	Insulation in circuits generating starting pulses		N/A
2.10.2	Determination of working voltage		N/A
2.10.2.1	General		N/A
2.10.2.2	RMS working voltage		N/A
2.10.2.3	Peak working voltage		N/A
2.10.3	Clearances		N/A
2.10.3.1	General		N/A
2.10.3.2	Mains transient voltages		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	a) AC mains supply		N/A
	b) Earthed d.c. mains supplies		N/A
	c) Unearthed d.c. mains supplies		N/A
	d) Battery operation		N/A
2.10.3.3	Clearances in primary circuits		N/A
2.10.3.4	Clearances in secondary circuits		N/A
2.10.3.5	Clearances in circuits having starting pulses		N/A
2.10.3.6	Transients from a.c. mains supply		N/A
2.10.3.7	Transients from d.c. mains supply		N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems		N/A
2.10.3.9	Measurement of transient voltage levels		—
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network :		N/A
2.10.4	Creepage distances		N/A
2.10.4.1	General		N/A
2.10.4.2	Material group and comparative tracking index		N/A
	CTI tests		—
2.10.4.3	Minimum creepage distances		N/A
2.10.5	Solid insulation		N/A
2.10.5.1	General		N/A
2.10.5.2	Distances through insulation		N/A
2.10.5.3	Insulating compound as solid insulation		N/A
2.10.5.4	Semiconductor devices		N/A
2.10.5.5	Cemented joints		N/A
2.10.5.6	Thin sheet material – General		N/A
2.10.5.7	Separable thin sheet material		N/A
	Number of layers (pcs)		—
2.10.5.8	Non-separable thin sheet material		N/A
2.10.5.9	Thin sheet material – standard test procedure		N/A
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Electric strength test		N/A
2.10.5.11	Insulation in wound components		N/A
2.10.5.12	Wire in wound components		N/A
	Working voltage		N/A
	a) Basic insulation not under stress		N/A
	b) Basic, supplementary, reinforced insulation		N/A
	c) Compliance with Annex U		N/A
	Two wires in contact inside wound component; angle between 45° and 90°		N/A
2.10.5.13	Wire with solvent-based enamel in wound components		N/A
	Electric strength test		—
	Routine test		—
2.10.5.14	Additional insulation in wound components		N/A
	Working voltage		—
	- Basic insulation not under stress		—
	- Supplementary, reinforced insulation		—
2.10.6	Construction of printed boards		N/A
2.10.6.1	Uncoated printed boards		N/A
2.10.6.2	Coated printed boards		N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board		N/A
2.10.6.4	Insulation between conductors on different layers of a printed board		N/A
	Distance through insulation		—
	Number of insulation layers (pcs).....		—
2.10.7	Component external terminations		N/A
2.10.8	Tests on coated printed boards and coated components		N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A
2.10.8.3	Electric strength test		N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling		N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts		N/A

3	WIRING, CONNECTIONS AND SUPPLY		P
3.1	General		P
3.1.1	Current rating and overcurrent protection	Adequate cross sectional areas on internal wiring.	P
3.1.2	Protection against mechanical damage	Wireways are smooth and free from edges. Wires are adequately fixed to prevent excessive strain on wire and terminals and avoiding damage to the insulation of the conductors.	P
3.1.3	Securing of internal wiring	Internal wiring is secured against excessive strain, loosening of terminals and damage to the conductor insulation.	P
3.1.4	Insulation of conductors	Insulation on internal conductors is considered to be of adequate quality and suitable for the application and the working voltage involved.	P
3.1.5	Beads and ceramic insulators	No beads or similar ceramic insulators on conductors.	N/A
3.1.6	Screws for electrical contact pressure	No electric screw connection.	N/A
3.1.7	Insulating materials in electrical connections	No contact pressure through insulating material.	N/A
3.1.8	Self-tapping and spaced thread screws	No such device used in equipment.	N/A
3.1.9	Termination of conductors	No such device used in equipment.	N/A
	10 N pull test		N/A
3.1.10	Sleeving on wiring	No sleeve.	N/A

3.2	Connection to a mains supply		N/A
3.2.1	Means of connection	3.2.1-3.2.9: Class III equipment, not connected to the mains.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	Connection to an a.c. mains supply		N/A
3.2.1.2	Connection to a d.c. mains supply		N/A
3.2.2	Multiple supply connections		N/A
3.2.3	Permanently connected equipment		N/A
	Number of conductors, diameter of cable and conduits (mm)		—
3.2.4	Appliance inlets		N/A
3.2.5	Power supply cords		—
3.2.5.1	AC power supply cords		N/A
	Type		—
	Rated current (A), cross-sectional area (mm ²), AWG		—
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief		N/A
	Mass of equipment (kg), pull (N)		—
	Longitudinal displacement (mm)		—
3.2.7	Protection against mechanical damage		N/A
3.2.8	Cord guards		N/A
	Diameter or minor dimension D (mm); test mass (g)		—
	Radius of curvature of cord (mm).....		—
3.2.9	Supply wiring space		N/A

3.3	Wiring terminals for connection of external conductors		N/A
3.3.1	Wiring terminals	3.3.1 – 3.3.8; Class III equipment, not connected to the mains.	N/A
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm ²).....		—
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type, nominal thread diameter (mm)		—
3.3.6	Wiring terminal design		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A

3.4	Disconnection from the mains supply		N/A
3.4.1	General requirement	3.4.1 – 3.4.11 Class III equipment, not connected to the mains.	N/A
3.4.2	Disconnect devices		N/A
3.4.3	Permanently connected equipment		N/A
3.4.4	Parts which remain energized		N/A
3.4.5	Switches in flexible cords		N/A
3.4.6	Number of poles - single-phase and d.c. equipment		N/A
3.4.7	Number of poles - three-phase equipment		N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices		N/A
3.4.10	Interconnected equipment		N/A
3.4.11	Multiple power sources		N/A

3.5	Interconnection of equipment		P
3.5.1	General requirements	Considered.	P
3.5.2	Types of interconnection circuits	Interconnection for SELV circuits.	P
3.5.3	ELV circuits as interconnection circuits	No ELV interconnections.	N/A
3.5.4	Data ports for additional equipment	Considered. Refer to Cl. 2.5.	P

4	PHYSICAL REQUIREMENTS		P
4.1	Stability		N/A
	Angle of 10°	The mass of unit < 7kg.	N/A
	Test force (N)	The unit is not floor-standing.	N/A

4.2	Mechanical strength		P
4.2.1	General	Refer to below: Complies with the requirement also after tests described below are applied.	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Rack-mounted equipment.	Not rack-mounted equipment.	N/A
4.2.2	Steady force test, 10 N	No parts with hazards voltage or energy inside equipment.	N/A
4.2.3	Steady force test, 30 N	No such internal enclosure.	N/A
4.2.4	Steady force test, 250 N	No hazard. The test is performed at all sides of enclosure.	P
4.2.5	Impact test	Impact test not applicable, refer to cl. 4.2.6.	N/A
	Fall test		N/A
	Swing test		N/A
4.2.6	Drop test; height (mm)	Transportable equipment: No hazard as result from the 1m of drop test.	P
4.2.7	Stress relief test	Test is carried out at 70°C / 7h. No risk of shrinkage or distortion on enclosures due to release of internal stresses.	P
4.2.8	Cathode ray tubes	CRT(s) not used in the equipment.	N/A
	Picture tube separately certified		—
4.2.9	High pressure lamps	No high pressure lamps in the equipment.	N/A
4.2.10	Wall or ceiling mounted equipment; force (N)	Not intended to be mounted on a wall or ceiling.	N/A

4.3	Design and construction		P
4.3.1	Edges and corners	All edges and corners are rounded and/or smoothed.	P
4.3.2	Handles and manual controls; force (N)..... :	No such part.	N/A
4.3.3	Adjustable controls	No hazardous adjustable controls.	N/A
4.3.4	Securing of parts	No loosening of parts impairing creepage distances or clearances is likely to occur.	P
4.3.5	Connection by plugs and sockets	SELV connectors does not comply with IEC 60320-1 or IEC 60083.	P
4.3.6	Direct plug-in equipment	Not intended to plug directly into a wall socket-outlet.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Torque		—
	Compliance with the relevant mains plug standard		—
4.3.7	Heating elements in earthed equipment	No heating elements provided.	N/A
4.3.8	Batteries	Refer to cl. 1.7.13 and appended – batteries.	P
	- Overcharging of a rechargeable battery	Considered, refer to CB test report of battery pack, appended table 4.3.8 and 5.3.	P
	- Unintentional charging of a non-rechargeable battery	No such battery.	N/A
	- Reverse charging of a rechargeable battery	Battery pack is provided special shape connector for prevent reverse polarity or reverse charging.	N/A
	- Excessive discharging rate for any battery	Considered, refer to CB test report of battery pack, appended table 4.3.8 and 5.3.	P
4.3.9	Oil and grease	Insulation is not exposed to oil, grease etc.	P
4.3.10	Dust, powders, liquids and gases	The batteries are considered not to contain flammable liquids or gases. In the CPU heat pipe contained a very small amount liquid that is no risk of leakage under normal and abnormal operation condition.	P
4.3.11	Containers for liquids or gases	No containers for liquids or gases in the equipment.	N/A
4.3.12	Flammable liquids	The liquid is not flammable. It is only water and negligible secret corrosion inhibitors inside of heat pipe.	N/A
	Quantity of liquid (l)		—
	Flash point (°C)		—
4.3.13	Radiation	Refer below:	P
4.3.13.1	General	Refer below:	—
4.3.13.2	Ionizing radiation	The equipment does not generate ionizing radiation.	N/A
	Measured radiation (pA/kg)		—
	Measured high-voltage (kV)		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Measured focus voltage (kV)		—
	CRT markings		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials	The equipment does not produce significant UV radiation.	N/A
	Part, property, retention after test, flammability classification		—
4.3.13.4	Human exposure to ultraviolet (UV) radiation	The equipment does not produce significant UV radiation.	N/A
4.3.13.5	Lasers (including laser diodes) and LEDs	Refer to below:	P
4.3.13.5.1	Lasers (including laser laser diodes)	Laser components (ODD) comply with IEC/EN 60825-1. See List of Critical Components for additional information.	P
	Laser class	1	—
4.3.13.5.2	Light emitting diodes (LEDs)	Low power applications of LEDs need not to comply with IEC 62471.	P
4.3.13.6	Other types	The equipment does not generate other types of radiation.	N/A

4.4	Protection against hazardous moving parts		P
4.4.1	General	Adequate protection against of personal injury.	P
4.4.2	Protection in operator access areas	No risk of personal injury from moving part (fan).	P
	Household and home/office document/media shredders	Not household and home/office document/media shredders.	—
4.4.3	Protection in restricted access locations	Equipment not located in restricted access location.	N/A
4.4.4	Protection in service access areas	Unintentional contact is not likely in service access areas.	N/A
4.4.5	Protection against moving fan blades	Refer below:	N/A
4.4.5.1	General	Adequate protection against risk of personal injury.	N/A
	Not considered to cause pain or injury. a).....		—
	Is considered to cause pain, not injury. b)		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Considered to cause injury. c)		—
4.4.5.2	Protection for users	Adequate protection against risk of personal injury.	N/A
	Use of symbol or warning		—
4.4.5.3	Protection for service persons	Unintentional contact is not likely in service access areas.	N/A
	Use of symbol or warning		—

4.5	Thermal requirements		P
4.5.1	General	Considered.	P
4.5.2	Temperature tests	(see appended table 4.5)	P
	Normal load condition per Annex L	Rated load with continuous operation.	P
4.5.3	Temperature limits for materials	(see appended table 4.5)	P
4.5.4	Touch temperature limits	(see appended table 4.5)	P
4.5.5	Resistance to abnormal heat	No thermoplastic parts carrying hazardous voltages.	N/A

4.6	Openings in enclosures		P
4.6.1	Top and side openings	Transportable equipment.	N/A
	Dimensions (mm)		—
4.6.2	Bottoms of fire enclosures	Transportable equipment.	N/A
	Construction of the bottom, dimensions (mm) ..		—
4.6.3	Doors or covers in fire enclosures	The door or cover is intended for occasional use. Equipment instructions include directions.	P

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Clause	Requirement + Test	Result - Remark	Verdict
4.6.4	Openings in transportable equipment	Key board side: <u>Speaker (two provide):</u> numerous of round openings, max. 0.3mm in diameter for each opening. Right side: <u>Security lock:</u> a slot opening, 7.0 x 3.0mm (internal baffled by min. V-1 material). Left side: <u>Vent:</u> numerous of slot openings, 14.9 x 2.9mm for each opening (internal baffled by H/S, 1.0mm width for each fin). Bottom side: <u>Vent:</u> numerous of slot openings, max. 11.4 x 1.0mm for each opening (under DC fan). <u>Vent:</u> numerous of slot openings, max. 11.4x 1.0mm for each opening (under heat pipe)	P
4.6.4.1	Constructional design measures	Refer to sub-clause 4.6.4.	P
	Dimensions (mm) :		—
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metallized parts		N/A
4.6.5	Adhesives for constructional purposes	No barrier secured by adhesive inside enclosure.	N/A
	Conditioning temperature (°C), time (weeks) :		—

4.7	Resistance to fire		P
4.7.1	Reducing the risk of ignition and spread of flame	Method 1 is used.	P
	Method 1, selection and application of components wiring and materials	(see appended table 4.7)	P
	Method 2, application of all of simulated fault condition tests	Not used method 2.	N/A
4.7.2	Conditions for a fire enclosure	Refer below:	P
4.7.2.1	Parts requiring a fire enclosure	The fire enclosure is required to cover all parts.	P
4.7.2.2	Parts not requiring a fire enclosure	The fire enclosure is required to cover all parts.	N/A
4.7.3	Materials	See below:	P

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Clause	Requirement + Test	Result - Remark	Verdict
4.7.3.1	General	Components and materials have adequate flammability classification. See appended table 1.5.1 and Annex A.	P
4.7.3.2	Materials for fire enclosures	The fire enclosure is of V-0 and glass of LCD panel material.	P
4.7.3.3	Materials for components and other parts outside fire enclosures	No parts outside the enclosure.	N/A
4.7.3.4	Materials for components and other parts inside fire enclosures	Other materials inside the fire enclosure are minimum V-2 material.	P
4.7.3.5	Materials for air filter assemblies	No air filters in the equipment.	N/A
4.7.3.6	Materials used in high-voltage components	No parts exceeding 4kV.	N/A

5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		P
5.1	Touch current and protective conductor current		N/A
5.1.1	General	5.1.1 – 5.1.8 Class III equipment and without TNV circuits nor cable distribution systems.	N/A
5.1.2	Configuration of equipment under test (EUT)		—
5.1.2.1	Single connection to an a.c. mains supply		N/A
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N/A
5.1.3	Test circuit		N/A
5.1.4	Application of measuring instrument		—
5.1.5	Test procedure		—
5.1.6	Test measurements		—
	Supply voltage (V)		—
	Measured touch current (mA)		N/A
	Max. allowed touch current (mA)		—
	Measured protective conductor current (mA)		—
	Max. allowed protective conductor current (mA)...		—
5.1.7	Equipment with touch current exceeding 3,5 mA		N/A
5.1.7.1	General		—
5.1.7.2	Simultaneous multiple connections to the supply		—

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Clause	Requirement + Test	Result - Remark	Verdict
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks		N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		—
	Supply voltage (V)		—
	Measured touch current (mA)		—
	Max. allowed touch current (mA)		—
5.1.8.2	Summation of touch currents from telecommunication networks		N/A
	a) EUT with earthed telecommunication ports		—
	b) EUT whose telecommunication ports have no reference to protective earth		—

5.2	Electric strength		N/A
5.2.1	General	5.2.1 – 5.2.2 Class III equipment and without TNV circuits nor cable distribution systems.	N/A
5.2.2	Test procedure		N/A

5.3	Abnormal operating and fault conditions		P
5.3.1	Protection against overload and abnormal operation	(see appended table 5.3)	P
5.3.2	Motors	Motors in certified HDD, ODD and DC fan. No excessive temperatures occur when fan motor is stalled.	P
5.3.3	Transformers	No isolating transformer in the equipment.	N/A
5.3.4	Functional insulation	Complies with c).	P
5.3.5	Electromechanical components	No electromechanical components in secondary circuits.	N/A
5.3.6	Audio amplifiers in ITE	(see appended table 5.3).	P
5.3.7	Simulation of faults	(see appended table 5.3).	P
5.3.8	Unattended equipment	No thermostats, temperature limiters or thermal cut-outs.	N/A

IEC 60950-1/Am1			
Clause	Requirement + Test	Result - Remark	Verdict
5.3.9	Compliance criteria for abnormal operating and fault conditions	Refer below:	P
5.3.9.1	During the tests	No fire or molten metal occurred and no deformation of enclosure during the tests.	P
5.3.9.2	After the tests	No fire or molten metal occurred and no deformation of enclosure during the tests.	P

6	CONNECTION TO TELECOMMUNICATION NETWORKS		N/A
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		N/A
6.1.1	Protection from hazardous voltages	No TNV circuits.	N/A
6.1.2	Separation of the telecommunication network from earth		N/A
6.1.2.1	Requirements		N/A
	Supply voltage (V)		—
	Current in the test circuit (mA)		—
6.1.2.2	Exclusions	No TNV circuits.	N/A

6.2	Protection of equipment users from overvoltages on telecommunication networks		N/A
6.2.1	Separation requirements	6.2.1-6.2.2.3: No TNV circuits.	N/A
6.2.2	Electric strength test procedure		—
6.2.2.1	Impulse test		—
6.2.2.2	Steady-state test		—
6.2.2.3	Compliance criteria		—

6.3	Protection of the telecommunication wiring system from overheating		N/A
	Max. output current (A)	No TNV circuits.	N/A
	Current limiting method		—

7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		N/A
7.1	General	7.1-7.4.3: Not connected to cable distribution systems.	N/A

IEC 60950-1/Am1			
Clause	Requirement + Test	Result - Remark	Verdict
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N/A
7.3	Protection of equipment users from overvoltages on the cable distribution system		N/A
7.4	Insulation between primary circuits and cable distribution systems		N/A
7.4.1	General		N/A
7.4.2	Voltage surge test		N/A
7.4.3	Impulse test		N/A

A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		P
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)	Product mass <18kg	N/A
A.1.1	Samples.....:		—
	Wall thickness (mm).....:		—
A.1.2	Conditioning of samples; temperature (°C).....:		—
A.1.3	Mounting of samples.....:		—
A.1.4	Test flame (see IEC 60695-11-3)		N/A
	Flame A, B, C or D.....:		—
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s).....:		—
	Sample 2 burning time (s).....:		—
	Sample 3 burning time (s).....:		—
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		P
A.2.1	Samples, material.....:	All materials have suitable flame class. Glass of LCD panel are complied with A.2 test, see below:	P
	Wall thickness (mm).....:	Glass of LCD panel: Type: various; glass. Min. 0.34mm thickness.	—
A.2.2	Conditioning of samples; temperature (°C).....:	70°C, for 7 days (168 h)	—

IEC 60950-1/Am1			
Clause	Requirement + Test	Result - Remark	Verdict
A.2.3	Mounting of samples	Samples are mounted vertically.	—
A.2.4	Test flame (see IEC 60695-11-4)	The test flame according to IEC 60695-11-4 is used.	P
	Flame A, B or C	Flame A used.	—
A.2.5	Test procedure	Considered	P
A.2.6	Compliance criteria	Complied.	P
	Sample 1 burning time (s)	Glass of LCD panel: 0 sec. The sample was not flammable and surgical cotton was not ignited.	—
	Sample 2 burning time (s)	Glass of LCD panel: 0 sec. The sample was not flammable and surgical cotton was not ignited.	—
	Sample 3 burning time (s)	Glass of LCD panel: 0 sec. The sample was not flammable and surgical cotton was not ignited.	—
A.2.7	Alternative test acc. to IEC 60695-11-5, cl. 5 and 9		N/A
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.3	Hot flaming oil test (see 4.6.2)	Not applicable.	N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A

B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		P
B.1	General requirements	Motors in certified HDD and DC fan.	P
	Position		—
	Manufacturer		—
	Type		—
	Rated values		—
B.2	Test conditions		N/A
B.3	Maximum temperatures		N/A

IEC 60950-1/Am1			
Clause	Requirement + Test	Result - Remark	Verdict
B.4	Running overload test		N/A
B.5	Locked-rotor overload test		N/A
	Test duration (days)		—
	Electric strength test: test voltage (V)		—
B.6	Running overload test for d.c. motors in secondary circuits		N/A
B.6.1	General		N/A
B.6.2	Test procedure		N/A
B.6.3	Alternative test procedure		N/A
B.6.4	Electric strength test; test voltage (V)		N/A
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
B.7.1	General		N/A
B.7.2	Test procedure		N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V)		N/A
B.8	Test for motors with capacitors		N/A
B.9	Test for three-phase motors		N/A
B.10	Test for series motors		N/A
	Operating voltage (V)		—

C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		N/A
	Position	No isolating transformer in the equipment.	—
	Manufacturer		—
	Type		—
	Rated values		—
	Method of protection.....		—
C.1	Overload test		N/A
C.2	Insulation		N/A
	Protection from displacement of windings.....		N/A

D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		N/A
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IEC 60950-1/Am1			
Clause	Requirement + Test	Result - Remark	Verdict
D.1	Measuring instrument	Class III equipment and without TNV circuits nor cable distribution systems.	N/A
D.2	Alternative measuring instrument		N/A

E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)	N/A
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F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)	N/A
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G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES	N/A
G.1	Clearances	N/A
G.1.1	General	N/A
G.1.2	Summary of the procedure for determining minimum clearances	N/A
G.2	Determination of mains transient voltage (V)	N/A
G.2.1	AC mains supply	N/A
G.2.2	Earthed d.c. mains supplies	N/A
G.2.3	Unearthed d.c. mains supplies	N/A
G.2.4	Battery operation	N/A
G.3	Determination of telecommunication network transient voltage (V)	N/A
G.4	Determination of required withstand voltage (V)	N/A
G.4.1	Mains transients and internal repetitive peaks	N/A
G.4.2	Transients from telecommunication networks	N/A
G.4.3	Combination of transients	N/A
G.4.4	Transients from cable distribution systems	N/A
G.5	Measurement of transient voltages (V)	N/A
	a) Transients from a mains supply	N/A
	For an a.c. mains supply	N/A
	For a d.c. mains supply	N/A
	b) Transients from a telecommunication network	N/A
G.6	Determination of minimum clearances	N/A

H	ANNEX H, IONIZING RADIATION (see 4.3.13)	N/A
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IEC 60950-1/Am1			
Clause	Requirement + Test	Result - Remark	Verdict

J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		N/A
	Metal(s) used		—

K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)		N/A
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V)		N/A
K.3	Thermostat endurance test; operating voltage (V)		N/A
K.4	Temperature limiter endurance; operating voltage (V)		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation		N/A

L	ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)		P
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment		P

M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N/A
M.1	Introduction	Class III equipment and without TNV circuits.	N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringing signal		N/A
M.3.1.1	Frequency (Hz)		—
M.3.1.2	Voltage (V)		—
M.3.1.3	Cadence; time (s), voltage (V)		—
M.3.1.4	Single fault current (mA)		—
M.3.2	Tripping device and monitoring voltage		N/A

IEC 60950-1/Am1			
Clause	Requirement + Test	Result - Remark	Verdict
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V) :		N/A
N	ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A
P	ANNEX P, NORMATIVE REFERENCES		—
Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)		N/A
	a) Preferred climatic categories :		N/A
	b) Maximum continuous voltage :		N/A
	c) Pulse current :		N/A
R	ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)	The quality control programmes are not used.	N/A
R.2	Reduced clearances (see 2.10.3)		N/A
S	ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)		N/A
S.1	Test equipment	The impulse testing is not used.	N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A
T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		N/A
			—
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.12)		N/A
			—

IEC 60950-1/Am1			
Clause	Requirement + Test	Result - Remark	Verdict
V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		N/A
V.1	Introduction		N/A
V.2	TN power distribution systems		N/A
W	ANNEX W, SUMMATION OF TOUCH CURRENTS		N/A
W.1	Touch current from electronic circuits		N/A
W.1.1	Floating circuits		N/A
W.1.2	Earthed circuits		N/A
W.2	Interconnection of several equipments		N/A
W.2.1	Isolation		N/A
W.2.2	Common return, isolated from earth		N/A
W.2.3	Common return, connected to protective earth		N/A
X	ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)		N/A
X.1	Determination of maximum input current		N/A
X.2	Overload test procedure		N/A
Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)		N/A
Y.1	Test apparatus	No ultraviolet light.	N/A
Y.2	Mounting of test samples		N/A
Y.3	Carbon-arc light-exposure apparatus		N/A
Y.4	Xenon-arc light exposure apparatus		N/A
Z	ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)		P
AA	ANNEX AA, MANDREL TEST (see 2.10.5.8)		N/A
BB	ANNEX BB, CHANGES IN THE SECOND EDITION		—
CC	ANNEX CC, Evaluation of integrated circuit (IC) current limiters		P
CC.1	General	Considered.	P

IEC 60950-1/Am1			
Clause	Requirement + Test	Result - Remark	Verdict
CC.2	Test program 1.....:	Integrated circuit (IC) current limiters used for protect USB ports and complies with Annex CC.2, program 1.	P
CC.3	Test program 2.....:	Integrated circuit (IC) current limiters used for protect USB ports and complies with Annex CC.3, program 2.	P

DD	ANNEX DD, Requirements for the mounting means of rack-mounted equipment		N/A
DD.1	General	Not a rack-mounted equipment.	N/A
DD.2	Mechanical strength test, variable N.....:		N/A
DD.3	Mechanical strength test, 250N, including end stops.....:		N/A
DD.4	Compliance.....:		N/A

EE	ANNEX EE, Household and home/office document/media shredders		N/A
EE.1	General	Not household and home/office document/media shredders	N/A
EE.2	Markings and instructions		N/A
	Use of markings or symbols.....:		N/A
	Information of user instructions, maintenance and/or servicing instructions.....:		N/A
EE.3	Inadvertent reactivation test.....:		N/A
EE.4	Disconnection of power to hazardous moving parts:		N/A
	Use of markings or symbols.....:		N/A
EE.5	Protection against hazardous moving parts		N/A
	Test with test finger (Figure 2A):		N/A
	Test with wedge probe (Figure EE1 and EE2):		N/A

1.5.1	TABLE: list of critical components					P
object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity ¹⁾	
AC/DC adapter 1)	Asian Power Devices	NB-65B19.... ("."=0 to 9, A to Z, - or blank)	I/P: 1.6A, 100-240V, 50-60Hz, Cl.I O/P: 3.42A 19Vdc	IEC 60950-1:2005+A1 UL 60950-1	CB by TUV RH UL	
	Delta Electronics	ADP-65JH BB	I/P: 1.5A, 100-240V, 50-60Hz, Cl.I O/P: 3.42A 19Vdc	IEC 60950-1:2005+A1 UL 60950-1	CB by TUV RH UL	
	Asian Power Devices	DA-65C19	I/P: 1.6A, 100-240V, 50-60Hz, Cl.I O/P: 3.42A 19Vdc	IEC 60950-1:2005+A1 UL 60950-1	CB by TUV RH UL	
	Asian Power Devices	NB-90y19xxxx (The " y " in the model name can be A or B, A with OCP circuit, B without OCP circuit. The " x " in the model name can be " - ", " 0 " to " 9 ", " A " to " Z " or blank for marketing use only)	I/P 1.5A, 100-240V, 50-60Hz, Cl.I O/P: 4.74A 19Vdc	IEC 60950-1(ed.2) UL 60950-1	CB by N UL	
	Delta Electronics	ADP-90CD BB	I/P: 1.5A, 100-240V, 50-60Hz, Cl.I O/P: 4.74A 19Vdc	IEC 60950-1:2005+A1 UL 60950-1	CB by TUV RH UL	
Enclosure	Bayer	FR3002	V-0, min. 1.0mm thickness	UL 94	UL	
	Mitsubishi	TMB1615+ (+:Suffix optional, exceptions: The following cannot be used as optional suffixes: "T" for grade 2030, "A" for 1501, 1502, 1511, 1521 & 2502, "N" for NXG5050, NXG5030, NXG5501, & CGF-(v)(u).)	V-0, min. 1.0mm thickness	UL 94	UL	

object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity ¹⁾
Enclosure	Mitsubishi	MB8800+ (+:Suffix optional, exceptions: The following cannot be used as optional suffixes: "T" for grade 2030, "A" for 1501, 1502, 1511, 1521 & 2502, "N" for NXG5050, NXG5030, NXG5501, & CGF-(v)(u).)	V-0, min. 1.5mm thickness	UL 94	UL
	Formosa Chemicals & Corp Plastics Div	AC3100	V-0, min. 1.5mm thickness	UL 94	UL
	Ultratec Plastics	SA123	V-0, min. 1.5mm thickness	UL 94	UL
LCD panel (optional)	Various	Various	14.0" TFT, glass type, min. 0.34 mm thick (with LED back-light module)		Tested in the equipment (see annex A.2)
HDD (optional)	Seagate Technology	ST9 with additional suffixes, 2.5 Series, ST with additional suffixes.	5Vdc, 1.5A max.	EN 60950-1, UL 60950-1	TUV RH, UL
	or equivalent	or equivalent	5Vdc, 1.5A max.		Verified by Nemko or other certificate body, UL

object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity ¹⁾
SSD (optional)	Micron or equivalent	RealSSD X300 (X may be any letter A-Z representing differences in software and is non safety relevant.) or equivalent	3.3/5Vdc, 1.6A max. 3.3/5Vdc, 1.6A max.	EN 60950-1: 2001+A11, UL 60950-1	TUV, UL Verified by Nemko or other certificate body, UL
ODD (optional)	Hitachi-LG or equivalent	GCC-4244N-4244N***** (*=0-9, A-Z or blank) or equivalent	5Vdc, 2.8A max.; V-1 min. for bezel; Laser class 1 product 5Vdc, 2.8A max.; V-1 min. for bezel; Laser class 1 product	EN 60950-1, EN 60825-1	TUV RH Verified by Nemko or other certificate body
DC fan	Delta Nidec Sunonwealth Sunonwealth Kipo or equivalent	KSB06105HA G75R05MS1AD MF60090V1-C180-G99 MF60120V1-CZ (Z stands for 15 characters. Each character stands for one of following signs: 0-9, A-Z, (,), ., /, - or blank) FAVBL30EPA or equivalent	5Vdc, 0.4A max., 3.65CFM min. 5Vdc, 0.4A max., 5.8CFM min. 5Vdc, 0.4A max., 2.6CFM min. 5Vdc, 0.4A max., 7.0CFM min. 5Vdc, 0.4A max., 3.5CFM min. 5Vdc, 0.4A max., 2.6CFM min.	EN 60950-1:2006+A11, UL507 EN 60950-1:2006+A11, UL507 EN 60950-1:2006+A11, UL507 EN 60950-1:2006+A11, UL507 EN 60950-1:2006+A11, UL507	VDE, UL TUV SUD, UL TUV RH, UL TUV RH, UL TUV SUD, UL Verified by Nemko or other certificate body, UL
Speaker (optional)	Various	Various	Min. 4Ω, max. 3W max., two provided		Tested in the equipment

object/part No.	manufacturer/trademark	type/model	technical data	standard	mark(s) of conformity ¹⁾
RTC battery (Lithium)	Hitachi Maxell	ML1220	12Vdc, max. charging current is 100mA	UL 1642	UL
	FDK	ML1220	12Vdc, max. charging current is 300mA		UL
	Panasonic	ML1220	12Vdc, max. charging current is 300mA		UL
	Varta	ML1220	5Vdc, max. charging current is 300mA		UL
Li-Ion battery pack (for model BL1. and CW20)	Sony Taiwan	BATBLB3L61	10.8Vdc, 4400mAh, 48Wh	IEC 60950-1:2005 UL 60950-1	UL CB (DK-18574) UL
	Sony Taiwan	BATBLB3L62	11.1Vdc, 5100mAh, 57Wh	IEC 60950-1:2005 UL 60950-1	UL CB (DK-18574) UL
	Sanyo Energy (Taiwan)	BATAW20L61	10.8Vdc, 4500mAh, 49Wh	EN 60950-1:2006+A11 UL 60950-1	TUV RH UL
	Sanyo Energy (Taiwan)	BATAW20L62	11.1Vdc, 5200mAh, 58Wh	EN 60950-1:2006+A11 UL 60950-1	TUV RH UL
	Celxpert Energy	BATBL10L61	10.8Vdc, 4300mAh, 46.44Wh	IEC 60950-1/A1:2009 UL 60950-1	TUV SUD CB (SG-OF-05271)
	Celxpert Energy	BATBL10L62	11.1Vdc, 5200mAh, 57.72Wh	IEC 60950-1/A1:2009 UL 60950-1	TUV SUD CB (SG-OF-05291)
Li-Ion battery pack (for CW20 only)	Celxpert Energy	BATBL10L60	10.8Vdc, 2150mAh, 23.22Wh	IEC 60950-1(ed.2);am1 UL 60950-1	UL CB (DK-6074) UL
Li-Ion battery pack (for VBL30; VBL31 only)	Celxpert Energy	BATBL10L61	10.8Vdc, 4300mAh, 46.44Wh	IEC 60950-1/A1:2009 UL 60950-1	TUV SUD CB (SG-OF-05271)
	Sanyo Energy (Taiwan)	BATAW20L61	10.8Vdc, 4500mAh, 49Wh	EN 60950-1:2006+A11 UL 60950-1	TUV RH UL
PCB	Various	Various	V-1 min., 105°C min.	UL 796	UL

object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity ¹⁾
Power distribution switch (USB port protector)	Global Mixed-mode Technology	G525A1, G525A2, G526-1, G526-2, G528, G528A, G545A1, G545A2, G545B1, G545B2, G545C1, G545C2, G545D1, G545D2, G546A1, G546A2, G546A3, G546A4, G546B1, G546B2, G546B3, G546B4, G546C1, G546C2, for more models see test report	3.0-5.5Vdc per output channel, SELV, Cl.III	IEC 60950-1:2005	CB by TUV RH
	Texas Instruments	TPS206". " (The dot "." in the model name represents a single digit numeric character 1, 2, 3, 5, 6 or 7. Additional alphabetic characters representing device package options may follow the model number)	1A per output channel 2.7-5.5Vdc SELV, Cl.III	IEC 60950-1(ed.2);am1	CB by N
	Texas Instruments	TPS2062A	2.7-5.5Vdc, SELV, Cl. III	IEC 60950-1(ed.2)	CB by N
	Texas Instruments	TPS2066A	2.7-5.5Vdc, SELV, Cl. III	IEC 60950-1(ed.2)	CB by N
	Texas Instruments	TPS2068	2.7-5.5Vdc, SELV, Cl.III	IEC 60950-1(ed.2)	CB by N
	Texas Instruments	TPS2069	2.7-5.5Vdc, SELV, Cl.III	IEC 60950-1(ed.2)	CB by N
	Texas Instruments	TPS2556	5A 2.5-6.5Vdc, SELV, Cl.III	IEC 60950-1(ed.2)	CB by N
	Texas Instruments	TPS2557	5A 2.5-6.5Vdc, SELV, Cl.III	IEC 60950-1(ed.2)	CB by N

object/part No.	manufacturer/trademark	type/model	technical data	standard	mark(s) of conformity ¹⁾
Power distribution switch (USB port protector)	Texas Instruments	TPS2560	2.5A per channel, 2.5-6.5Vdc, SELV	IEC 60950-1(ed.2)	CB by N
	Texas Instruments	TPS2561	2.5A per channel, 2.5-6.5Vdc, SELV	IEC 60950-1(ed.2)	CB by N
	Richtek Technology	RT9711... (The first dot "." can be A, B, C or D represent output current/EN function. The second dot can be P or G represent manufacture process. The third dot can be B, BG, J5, S or F represent package type)	0.6-1.5A, 2.5-5.5Vdc per output channel, SELV, Cl. III	IEC 60950-1(ed.2)	CB by N
	Richtek Technology	RT9712..S (The first dot "." can be A, B, C or D represent output current / enable function. The second dot can be P or G represent manufacture process)	1.0-1.5A, 2.7-5.5Vdc per output channel, SELV, Cl. III	IEC 60950-1(ed.1)	CB by N
	Richtek Technology	RT9715... (The first dot "." can be A, B, C, D, E, F, G or H represent output current/EN function. The second dot can be P or G represent manufacture process. The third dot can be B, BG, S, F, BR or QW represent package type)	0.7-2.0A, 2.7-5.5Vdc per output channel, Cl.III. SELV	IEC 60950-1(ed.2)	CB by N

object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity ¹⁾
Power distribution switch (USB port protector)	ROHM	BD8010FVJ. BD8011FVJ. (The dot "." in the model name can be either blank or any combination of alphanumeric characters represent taping code)	0.5A, 2.7-5.5Vdc per output channel, SELV, Cl. III	IEC 60950-1(ed.1)	CB by N
	ROHM	BD8012FVJ. BD8013FVJ. BD8014FVJ. BD8015FVJ. (The dot "." in the model name can be either blank or any combination of alphanumeric characters to represent taping code)	0.5A, 2.7-5.5Vdc per output channel, SELV, Cl. III	IEC 60950-1(ed.1)	CB by N
	ANPEC Electronics	APL3510..I-TRG (The first dot "." in the model name be A, B, C or D to represent output current / enable function. The second dot can be K or X to represent package code)	1.0-2.0A, 2.7-5.5Vdc per output channel, Cl.III SELV	IEC 60950-1(ed.2)	CB by N
	Monolithic Power	MP62160D. (The dot "." in the model name can be S, D or H to represent package code)	2.8A, 2.7-5.5V, Cl.III	IEC 60950-1(ed.2)	CB by N
	uPI Semiconductor	uP7534yWYZ-XX (y=A, B, C or D; WYZ=RU8, RA8 or SA8; XX=06, 10 or 15)	DC 2.7-5.5V; 1.0-1.5A max. (XX=06) or 1.8-2.7A max. (XX=10) or 2.5-3.8A max. (XX=15)	IEC 60950-1:2005	CB by TUV RH

object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity ¹⁾
Power distribution switch (USB port protector)	Diodes	AP21xyz (The "x" in the model name can be any number from 4 to 9 (denoting active low or active high enable pin). "y" can be 1, 2, 5 or 6 (denoting channel switch type). "z" can be single or multiple alphanumeric characters, not affecting safety)	SELV supplied, Cl. III	IEC 60950-1(ed.2); am1	CB by N
	Diodes	AP2... (The symbols "..." in the model number represents alphanumeric characters (up to six alphanumeric characters) that may indicate device package options and minor non-safety critical variations of the device. Additional alphanumeric characters representing device package options may follow model number also representing minor non-safety critical variations in the device)	2.0A 2.7-5.5Vdc, SELV, Cl. III	IEC 60950-1(ed.2)	CB by N

object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity ¹⁾
Power distribution switch (USB port protector)	Texas Instruments	TPS2540RTE. (The "." indicated in the model designation represents any alphanumeric character identifying minor differences in non-safety affecting operation and configuration differences)	2.7A max. 4.5-5.5Vdc, Cl.III, SELV	IEC 60950-1 (ed.2); am1	CB by N
	Texas Instruments	TPS2540ARTE (The "x" indicated in the model designation represents any alphanumeric character identifying only the product packaging options, such as part quantity per reel)	2.7A max. 4.5-5.5Vdc, Cl.III, SELV	IEC 60950-1 (ed.2); am1	CB by N
	Texas Instruments	TPS2541ARTE (The "x" indicated in the model designation represents any alphanumeric character identifying only the product packaging options, such as part quantity per reel)	2.7A max. 4.5-5.5Vdc, Cl.III, SELV	IEC 60950-1 (ed.2); am1	CB by N

object/part No.	manufacturer/trademark	type/model	technical data	standard	mark(s) of conformity ¹⁾
Power distribution switch (USB port protector)	Texas Instruments	TPS2554DRCx (The "x" indicated in the model designation represents any alphanumeric character identifying only the product packaging options, such as part quantity per reel)	2.7A max. 4.5-5.5Vdc, Cl.III, SELV	IEC 60950-1 (ed.2); am1	CB by N
	Texas Instruments	TPS2555DRCx (The "x" indicated in the model designation represents any alphanumeric character identifying only the product packaging options, such as part quantity per reel)	2.7A max. 4.5-5.5Vdc, Cl.III, SELV	IEC 60950-1 (ed.2); am1	CB by N
	Texas Instruments	TPS2051C, TPS2065C, TPS2001C, TPS2000C, TPS2069C	I/P: 4.5Vdc to 5.5Vdc O/P: 0.5A to 2.0A	IEC 60950-1(ed.2);am1	CB by UL
	Richtek Technology	RT9731. (The dots "." in the model name can be 0 to 9, A to Z or blank for marketing purpose only.)	0.38-2.2A, 2.5-5.5Vdc per output channel, Cl.III, SELV	IEC 60950-1 (ed.2); am1	CB by N
	SILERGY	SY6288xyyy (x=A, B, C, D, E; yyy= 0-9, A-Z or blank)	I/P: DC 2.5V-5.5V O/P: DC 5.5V max., 1.6A max. (x= A, B); DC 5.5V max., 3.7A max. (x= C, D, E)	IEC 60950-1:2005	CB by TUV RH

object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity ¹⁾
Power distribution switch (USB port protector)	On Semiconductor SCG Hong Kong SAR Limited	NCP382LD10xxxx, NCP382HD10xxxx, NCP382LD05xxxx, NCP382HD05xxxx (x can be any character)	I/P: DC 2.5-5.5V; 2A max. O/P: DC 2.5-5.5V	IEC 60950-1:2005+A1	CB by TUV RH
	ON Semiconductor France SAS	NCP383xMUAJ (where x is H or L)	I/P: 2.7-5.5Vdc O/P: 25°C: 2.5 A per Output (Maximum total not to exceed 4 A) 85°C: 2.0A per Output (Maximum total not to exceed 3 A) Output(s) Current Limit: 0.47 - 3.1 (adjustable)	IEC 60950-1(ed.2);am1	CB by UL
	Pericom Semiconductor	PI5USB2541ZHE; PI5USB2543ZHE; PI5USB2557ZHE	Single Power Supply: 5Vdc +/- 10% Adjustable Current Limit: 250mA to 2.5A	IEC 60950-1:2005 (2ed) +A1:2009	CB by BV
	BCD Semiconductor (Taiwan)	AP2820...-. (The first dot "." in the model name can be A to H. Second dot can be M or MM. The third dot can be TR or blank. The last dot can be G1 or blank, for marketing purpose)	2.2-3.2A, 2.7-5.5Vdc, Cl.III SELV	EIC 60950-1(ed.2);am1	CB by N

object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity ¹⁾
Power distribution switch (USB port protector)	Texas Instruments	TPS2543	I/P: 4.5Vdc to 5.5Vdc O/P: 2.5A (limit 3.1A)	IEC 60950-1(ed.2);am1	CB by UL
	Texas Instruments	TPS2552..... (The dots "....." noted in the model number represents any alphanumeric character identifying minor differences in non-safety affecting operation and configuration differences)	1.5A, 2.5-6.5Vdc, SELV, Cl.III	IEC 60950-1(ed.2);am1	CB by N
	ANPEC Electronics	APL3510..I-TRG; APL3511.BI-TRG (The first dot "." in the model name APL3510..I-TRG can be A, B, C, D, E or F, represent output current/enable function. The second dot can be K, X or B to represent package code. The dot "." in the model name APL3511.BI-TRG can be A, B, C or D to represent output current/enable function)	0.3-2.0A, 2.7-5.5Vdc per output channel, Cl.III. SELV	IEC 60950-1(ed.2);am1	CB by N
Supplementary information:					
¹⁾ an asterisk indicates a mark which assures the agreed level of surveillance					
1) This equipment intended to be operated under altitude up to 10,000ft (3,048m), so the clearance is multiplied by the altitude correction factor (1.15, linear interpolation used), specified in table A.2 of IEC 60664-1, 1992+A1: 2000.					

1.5.1	TABLE: Opto Electronic Devices	N/A
Manufacturer : Type..... : Separately tested : Bridging insulation : External creepage distance..... : Internal creepage distance..... : Distance through insulation..... : Tested under the following conditions..... : Input..... : Output..... :		
Supplementary information:		

1.6.2	TABLE: Electrical data (in normal conditions)					P
U (V)	I (A)	I _{rated} (A)	P (W)	Fuse #	I _{fuse} (A)	Condition/status
Test on model BL10 (Intel CUP/chip set, UMA type main board A)						
Test with Asian Power adapter, type NB-65B19....						
19	2.63	3.42	49.97	--	--	Battery charging only (Sanyo type BATAW20L62)
19	3.07	3.42	58.33	--	--	Normal load (Sanyo type BATAW20L62)
Test with Delta adapter, type ADP-65JH BB						
19	2.58	3.42	49.02	--	--	Battery charging only (Sanyo type BATAW20L62)
19	3.10	3.42	58.90	--	--	Normal load (Sanyo type BATAW20L62)
Test on model BL11 (Intel CUP/chip set, Discrete type main board A)						
Test with Asian adapter, type NB-90y19xxxx						
19	2.80	4.74	53.20	--	--	Battery charging only (Sanyo type BATAW20L62)
19	4.17	4.74	79.23	--	--	Normal load (Sanyo type BATAW20L62)
Test with Delta adapter, type ADP-90CD BB						
19	2.74	4.74	52.06	--	--	Battery charging only (Sanyo type BATAW20L62)
19	4.17	4.74	79.23	--	--	Normal load (Sanyo type BATAW20L62)
Test on model CW20 (AMD CUP/chip set main board)						
Test with APD adapter, type DA-65C19						
19	2.47	3.42	46.93	--	--	Battery charging only (Sanyo type BATAW20L62)
19	3.01	3.42	57.19	--	--	Normal load (Sanyo type BATAW20L62)
Test on model VBL31 (Intel CUP/chip set, Discrete type main board B)						
Test with Asian Power adapter, type NB-65B19....						
19	1.87	3.42	35.53	--	--	Battery charging only (Sanyo type BATAW20L61)
19	3.25	3.42	61.75	--	--	Normal load (Sanyo type BATAW20L61)

U (V)	I (A)	I _{rated} (A)	P (W)	Fuse #	I _{fuse} (A)	Condition/status
Test with Delta adapter, type ADP-65JH BB						
19	1.88	3.42	35.72	--	--	Battery charging only (Sanyo type BATAW20L61)
19	3.28	3.42	62.32	--	--	Normal load (Sanyo type BATAW20L61)
Test with Asian Power adapter, type DA-65C19						
19	1.88	3.42	35.72	--	--	Battery charging only (Sanyo type BATAW20L61)
19	3.28	3.42	62.32	--	--	Normal load (Sanyo type BATAW20L61)
Test on model VBL31 (Intel CUP/chip set, Discrete type main board C)						
Test with Asian Power adapter, type NB-65B19....						
19	1.87	3.42	35.53	--	--	Battery charging only (Celxpert type BATBL10L61)
19	3.38	3.42	64.22	--	--	Normal load (Celxpert type BATBL10L61)
Test with Asian Power adapter, type NB-65B19....						
19	1.88	3.42	35.72	--	--	Battery charging only (Sanyo type BATAW20L61)
19	3.34	3.42	63.46	--	--	Normal load (Sanyo type BATAW20L61)
Test with Delta adapter, type ADP-65JH BB						
19	1.86	3.42	35.34	--	--	Battery charging only (Celxpert type BATBL10L61)
19	3.39	3.42	64.41	--	--	Normal load (Celxpert type BATBL10L61)
Test with Delta adapter, type ADP-65JH BB						
19	1.87	3.42	35.53	--	--	Battery charging only (Sanyo type BATAW20L61)
19	3.41	3.42	64.79	--	--	Normal load (Sanyo type BATAW20L61)
Supplementary information:						

2.1.1.5 c) 1)	TABLE: max. V, A, VA test				N/A
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)	
supplementary information:					

2.1.1.5 c) 2)	TABLE: stored energy		N/A
Capacitance C (μF)	Voltage U (V)	Energy E (J)	
supplementary information:			
E=0,5 CU² x 10 ⁻⁶			

2.2	TABLE: evaluation of voltage limiting components in SELV circuits			N/A
Component (measured between)	max. voltage (V) (normal operation)		Voltage Limiting Components	
	V peak	V d.c.		
Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)			
supplementary information:				
s-c=short circuit				

2.5	TABLE: Limited power sources					P
Circuit output tested:						
Note: Measured Uoc (V) with all load circuits disconnected:						
Components	Sample No.	Uoc (V)	I _{sc} (A)		VA	
			Meas.	Limit	Meas.	Limit
Test on model BL11						
USB1 port pin 1 – RTN	--	5.13	2.80	8.0	10.36	100
USB1 port pin 2~4 – RTN	--	0	0	--	0	--
USB2 port pin 1 – RTN	--	5.13	2.70	8.0	10.18	100
USB2 port pin 2~4 – RTN	--	0	0	--	0	--
USB3 port pin 1 – RTN	--	5.13	2.70	8.0	10.18	100
USB3 port pin 2~4 – RTN	--	0	0	--	0	--
HDMI port pin 1~14, 17, 19 – RTN	--	0	0	--	0	--
HDMI port pin 15, 16 – RTN	--	4.79	0	--	0	--
HDMI port pin 18 – RTN	--	5.09	2.00	8.0	7.52	100
VGA port pin 1~8, 10, 11, 13, 14 – RTN	--	0	0	--	0	--
VGA port pin 9 – RTN	--	5.03	2.00	8.0	7.46	100
VGA port pin 12 – RTN	--	4.46	0	--	0	--
VGA port pin 15 – RTN	--	4.44	0	--	0	--

Components	Sample No.	Uoc (V)	I _{sc} (A)		VA	
			Meas.	Limit	Meas.	Limit
Test on model CW20						
USB1 port pin 1 – RTN	--	5.13	2.45	8.0	9.00	100
USB1 port pin 2~4 – RTN	--	0	0	--	0	--
USB2 port pin 1 – RTN	--	5.12	2.35	8.0	8.44	100
USB2 port pin 2~4 – RTN	--	0	0	--	0	--
USB3 port pin 1 – RTN	--	5.12	2.35	8.0	8.86	100
USB3 port pin 2~4 – RTN	--	0	0	--	0	--
HDMI port pin 1~14, 17, 19 – RTN	--	0	0	--	0	--
HDMI port pin 15, 16 – RTN	--	4.75	0	--	0	--
HDMI port pin 18 – RTN	--	5.04	1.75	8.0	6.62	100
VGA port pin 1~8, 10, 11, 13, 14 – RTN	--	0	0	--	0	--
VGA port pin 9 – RTN	--	5.02	2.05	8.0	7.23	100
VGA port pin 12 – RTN	--	4.43	0	--	0	--
VGA port pin 15 – RTN	--	4.37	0	--	0	--

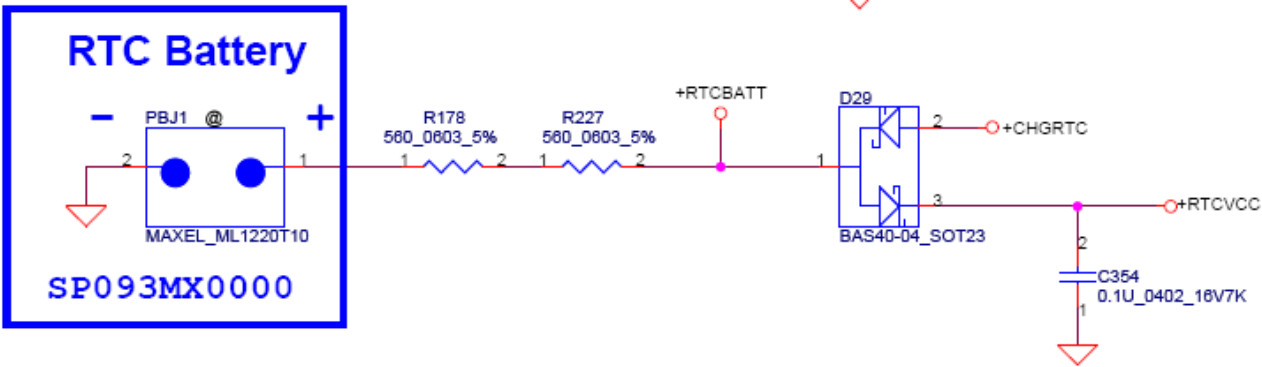
Components	Sample No.	Uoc (V)	I _{sc} (A)		VA	
			Meas.	Limit	Meas.	Limit
Test on model VBL31 (Intel CUP/chip set, Discrete type main board B)						
JUSB31 port pin 1 – RTN	--	5.07	3.10	8.0	13.33	100
JUSB31 port pin 2~4 – RTN	--	0	0	--	0	--
JUSB1 port pin 1 – RTN	--	5.07	2.80	8.0	11.08	100
JUSB1 port pin 2~4 – RTN	--	0	0	--	0	--
JUSB2 port pin 1 – RTN	--	4.94	2.34	8.0	6.83	100
JUSB2 port pin 2~4 – RTN	--	0	0	--	0	--
Test on model VBL31 (Intel CUP/chip set, Discrete type main board C)						
JUSB31 (USB3.0) pin 1 – RTN	--	5.11	3.02	8.0	12.03	100
JUSB31 (USB3.0) pin 2~9 – RTN	--	0	0	--	0	--
JUSB2 (USB2.0) pin 1 – RTN	--	5.10	3.03	8.0	11.73	100
JUSB2 (USB2.0) pin 2~4 – RTN	--	0	0	--	0	--
VGA pin 1~8, 10, 11, 16 – RTN	--	0	0	--	0	--
VGA pin 9 – RTN	--	4.94	2.00	8.0	9.88	100
VGA pin 12, 15 – RTN	--	4.38	0	--	0	--
VGA pin 13, 14 – RTN	--	4.98	0	--	0	--
supplementary information:						

2.10.2	Table: working voltage measurement				N/A
Location		RMS voltage (V)	Peak voltage (V)	Comments	
supplementary information:					

2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements						N/A
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)	
Supplementary information:							

2.10.5	TABLE: Distance through insulation measurements						N/A
Distance through insulation (DTI) at/of:	U peak (V)	U rms (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)		
Supplementary information:							

4.3.8	TABLE: Batteries	P
Battery category : Battery packs are certified components. For RTC battery (lithium), see below. Manufacturer : Hitachi Maxell / FDK / Panasonic / Varta Type / model : ML1220 / ML1220 / ML1220 / ML1220 Voltage : 12.0Vdc / 12Vdc / 12Vdc / 5Vdc Capacity : Tested and Certified by (incl. Ref. No.) : UL (MH12568 / MH13421 / MH12210 / MH13654)		
Circuit protection diagram: Test on model BL11		
Max. charge current (during fault conditions)	Measured current: 1. PR19 short circuit, I = 1.45mA 2. PR20 short circuit, I = 1.45mA 3. R1300 short circuit, I = 2.8mA 4. D2 pin 1 – 2 short circuit, I = 1.62mA 5. D2 pin 1 – 3 short circuit, I = 1.45mA 6. D2 pin 2 – 3 short circuit, I = 1.45mA Max. charging current limit=100mA / 300mA / 300mA / 300mA	

4.3.8	TABLE: Batteries (continued)	P
Battery category : Battery packs are certified components. For RTC battery (lithium), see below. Manufacturer : Hitachi Maxell / FDK / Panasonic / Varta Type / model : ML1220 / ML1220 / ML1220 / ML1220 Voltage : 12.0Vdc / 12Vdc / 12Vdc / 5Vdc Capacity : Tested and Certified by (incl. Ref. No.) : UL (MH12568 / MH13421 / MH12210 / MH13654)		
Circuit protection diagram: Test on model CW20		
		
Max. charge current (during fault conditions)	Measured current: 1. R178 short circuit, I = 5.4mA 2. R227 short circuit, I = 5.4mA 3. D29 pin 1 – 2 short circuit, I = 3.0mA 4. D29 pin 1 – 3 short circuit, I = 2.7mA 5. D29 pin 2 – 3 short circuit, I = 2.7mA Max. charging current limit=100mA / 300mA / 300mA / 300mA	

4.3.8	TABLE: Batteries (continued)	P
Battery category: Battery packs are certified components. For RTC battery (lithium), see below. Manufacturer: Hitachi Maxell / FDK / Panasonic / Varta Type / model.....: ML1220 / ML1220 / ML1220 / ML1220 Voltage: 12.0Vdc / 12Vdc / 12Vdc / 5Vdc Capacity.....: Tested and Certified by (incl. Ref. No.).....: UL (MH12568 / MH13421 / MH12210 / MH13654)		
Circuit protection diagram: Test on model VBL31 RTC Battery RTC Battery SP093MX0000 Change RTC For Cost Down		
Max. charge current (during fault conditions)		Measured current: 1. DH1 pin 1 – 3, short circuit, I = 1.60mA 2. DH1 pin 1 – 2, short circuit, I = 1.45mA 3. DH1 pin 2 – 3, short circuit, I = 1.45mA 4. PR27, short circuit, I = 1.95mA 5. PR28, short circuit, I = 1.95mA Max. charging current limit=100mA / 300mA / 300mA / 300mA

MARKINGS AND INSTRUCTIONS (1.7.13)

Location of replaceable battery	In service access areas
	Language(s): English
Close to the battery	Yes, see sub clause 1.7.13
In the servicing instructions	Yes, see sub clause 1.7.13
In the operating instructions	Yes, see sub clause 1.7.13

4.3.8	TABLE: Batteries								P
The tests of 4.3.8 are applicable only when appropriate battery data is not available						1) Appropriate battery data is available for real time clock battery. 2) Battery pack is of approval part.			P
Is it possible to install the battery in a reverse polarity position?						No			N/A
	Non-rechargeable batteries			Rechargeable batteries					
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.
Max. current during normal condition	--	--	--	1)	1)	1)	1)	2)	2)
Max. current during fault condition	--	--	--	1)	1)	1)	1)	2)	2)
1) For battery pack, refer to table 5.3. 2) Battery pack and RTC battery polarity can't be reversed according to the design of enclosure and connector									

Test results:		Verdict
- Chemical leaks	No chemical leaks affecting required insulation.	P
- Explosion of the battery	No explosion.	P
- Emission of flame or expulsion of molten metal	No emission of flame or expulsion of molten metal.	P
- Electric strength tests of equipment after completion of tests	Class III equipment.	N/A
Supplementary information:		

4.5	TABLE: maximum temperatures			P
	Test on model BL10 (Intel CUP/chip set, UMA type main board A)			
	test condition:	Normal load	Battery pack discharge	—
maximum temperature T of part/at::		T (°C)		allowed T _{max} (°C)
PCB near CPU		67.3	77.0	98
PCB near VGA		60.3	75.7	98
Chock		72.8	80.7	--
CPU H/S		57.5	78.5	--
RTC battery		53.6	64.1	--
HDD body		50.6	49.3	--
ODD body		41.6	43.8	--
Inner side of bottom enclosure, near CPU		51.8	63.6	--
External side of bottom enclosure, near CPU		46.2	55.6	68 *)
Enclosure of battery pack, near connector		40.5	47.4	68 *)
RAM module (maybe touch when open bottom door)		55.1	58.0	73
Ambient		28.0°C	28.2°C	
supplementary information:				
Having a specified maximum ambient temperature of 35°C. the maximum allowed temperatures are calculated based upon a (minimum) test temperature of 28.0°C. Temp. Limit is adjusted according to cl. 1.4.12.3. If no limits stated, temperature is for reference only. The air flow of DC fan is 2.6CFM min.				
*) Continuously held in normal use.				

4.5	TABLE: maximum temperatures (continued)			P
	Test on model BL11 (Intel CUP/chip set, Discrete type main board A)			
	test condition:	Normal load	Battery pack discharge	—
maximum temperature T of part/at::		T (°C)		allowed T _{max} (°C)
PCB near CPU		76.4	76.4	97.9
PCB near VGA		59.2	59.5	97.9
Chock		83.3	83.0	--
CPU H/S		65.8	65.5	--
RTC battery		53.3	54.5	--
HDD body		46.3	48.4	--
ODD body		35.0	45.1	--
Inner side of bottom enclosure, near CPU		59.0	58.6	--
External side of bottom enclosure, near CPU		53.3	52.9	67.9 *)
Enclosure of battery pack, near connector		37.9	51.8	67.9 *)
RAM module (maybe touch when open bottom door)		60.0	60.2	72.9
Ambient		27.9°C	28.3°C	
supplementary information:				
Having a specified maximum ambient temperature of 35°C. the maximum allowed temperatures are calculated based upon a (minimum) test temperature of 27.9°C. Temp. Limit is adjusted according to cl. 1.4.12.3. If no limits stated, temperature is for reference only. The air flow of DC fan is 2.6CFM min.				
*) Continuously held in normal use.				

4.5	TABLE: maximum temperatures (continued)			P
	Test on model CW20 (AMD CUP/chip set main board)			
	test condition:	Normal load	Battery pack discharge	—
maximum temperature T of part/at::		T (°C)		allowed T _{max} (°C)
PCB near CPU		41.0	40.9	93
PCB near VGA		37.7	37.6	93
Chock		53.9	54.0	--
CPU heat sink		35.4	35.5	--
RTC battery		36.8	36.9	--
HDD body		42.0	42.7	--
ODD body		34.4	35.0	--
Internal side of bottom enclosure, near CPU		34.3	35.0	--
External side of bottom enclosure, near CPU		29.5	29.9	63 *)
Enclosure of battery pack, near connector		30.6	34.3	63 *)
RAM module		41.3	40.6	--
Ambient		23.0°C	23.4°C	
supplementary information:				
Having a specified maximum ambient temperature of 35°C. the maximum allowed temperatures are calculated based upon a (minimum) test temperature of 23.0°C. Temp. Limit is adjusted according to cl. 1.4.12.3. If no limits stated, temperature is for reference only. The air flow of DC fan is 2.6CFM min.				
*) Continuously held in normal use.				

4.5	TABLE: maximum temperatures (continued)			P
	Test on model VBL31 (Intel CUP/chip set, Discrete type main board B)			
	test condition:	Normal load	Battery pack discharge	—
maximum temperature T of part/at::		T (°C)		allowed T _{max} (°C)
PCB near CPU		65.1	62.6	96.5
PCB near VGA		56.5	53.5	96.5
PL101 Chock		53.8	50.3	--
Heat pipe of CPU		64.6	61.9	--
RTC battery		44.8	43.3	--
HDD body		51.7	49.7	--
ODD body		43.2	41.3	--
Inner side of bottom enclosure, near CPU		50.6	42.9	--
External side of bottom enclosure, near CPU		48.7	40.4	66.5 *)
Enclosure of battery pack, near connector		40.8	50.0	66.5 *)
Ambient		27.7°C	26.5°C	
supplementary information:				
Having a specified maximum ambient temperature of 35°C. the maximum allowed temperatures are calculated based upon a (minimum) test temperature of 26.5°C. Temp. Limit is adjusted according to cl. 1.4.12.3. If no limits stated, temperature is for reference only. The air flow of DC fan is 2.6CFM min.				
*) Continuously held in normal use.				

4.5	TABLE: maximum temperatures (continued)			P
	Test on model VBL31 (Intel CUP/chip set, Discrete type main board C)			
	test condition:	Normal load	Battery pack discharge	—
maximum temperature T of part/at::		T (°C)		allowed T _{max} (°C)
PCB near CPU		68.5	57.8	96.6
PCB near VGA		59.1	50.5	96.6
PL900 Chock		56.6	48.9	--
Heat pipe of CPU		58.3	49.2	--
RTC battery		45.3	40.9	--
HDD body		50.3	48.2	--
ODD body		42.8	41.7	--
Inner side of bottom enclosure, near CPU		46.4	42.0	--
External side of bottom enclosure, near CPU		41.2	37.7	66.6 *)
Enclosure of battery pack, near connector		45.1	51.3	66.6 *)
Ambient		26.6°C	27.2°C	
supplementary information:				
Having a specified maximum ambient temperature of 35°C. the maximum allowed temperatures are calculated based upon a (minimum) test temperature of 26.6°C. Temp. Limit is adjusted according to cl. 1.4.12.3. If no limits stated, temperature is for reference only. The air flow of DC fan is 2.6CFM min.				
*) Continuously held in normal use.				

4.5.5	TABLE: Ball pressure test of thermoplastic parts			N/A
	Allowed impression diameter (mm): ≤ 2 mm			—
Part			Test temperature (°C)	Impression diameter (mm)
Supplementary information:				

4.7	TABLE: Resistance to fire				P
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence
Enclosure	Bayer	FR3002	1.0	V-0	UL
	Mitsubishi	TMB1615+	1.0	V-0	UL
	Mitsubishi	MB8800+	1.5	V-0	UL
	Formosa Chemicals & Corp Plastics Div	AC3100	1.5	V-0	UL
	Ultratec Plastics	SA123	1.5	V-0	UL
Supplementary information:					

5.1	TABLE: touch current measurement			N/A
Measured between:	Measured (mA)	Limit (mA)	Comments/conditions	
Supplementary information:				

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			N/A
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Supplementary information:				

5.3	TABLE: Fault condition tests					P
	Ambient temperature (°C)	25°C, if nothing else specified				—
	Power source for EUT: Manufacturer, model/type, output rating	For model BL10; CW20; VBL30; VBL31: APD AC/DC adapter type DA-65C19: I/P: 1.6A, 100-240V, 50-60Hz, Cl.I O/P: 3.42A 19Vdc For model BL11: Delta AC/DC adapter type ADP-90CD BB: I/P: 1.5A, 100-240V, 50-60Hz, Cl.I O/P: 4.74A 19Vdc				—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
Test on model BL10						
DC fan	Locked	19	2 hr	--	--	Unit operated normally. Max. temp. of PCB near CPU=76.7°C, Bottom enclosure near CPU =55.7°C. Ambient=28.6°C.
Ventilation openings	Blocked	19	2.5 hr	--	--	Unit shutdown. Max. temp. of PCB near CPU=70.7°C, Bottom enclosure near CPU =54.7°C. Ambient=28.6°C.
Charger circuit in main board, test with Sony battery pack, type BATBLB3L61						
Empty battery pack	Charge	19	7 hr	--	--	Charging current=3.16A. No damaged, no hazard.
Full battery pack	Discharge	--	7 hr	--	--	Discharge current=5.23A. No damaged, no hazard.
Charger circuit in main board, test with Sony battery pack, type BATBLB3L62						
Empty battery pack	Charge	19	7 hr	--	--	Charging current=3.66A. No damaged, no hazard.
Full battery pack	Discharge	--	7 hr	--	--	Discharge current=5.19A. No damaged, no hazard.
Charger circuit in main board, test with Sanyo battery pack, type BATAW20L61						
Empty battery pack	Charge	19	7 hr	--	--	Charging current=3.23A. No damaged, no hazard.
Full battery pack	Discharge	--	7 hr	--	--	Discharge current=5.10A. No damaged, no hazard.

Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
Charger circuit in main board, test with Sanyo battery pack, type BATAW20L62						
Empty battery pack	Charge	19	7 hr	--	--	Charging current=3.69A. No damaged, no hazard.
Full battery pack	Discharge	--	7 hr	--	--	Discharge current=5.21A. No damaged, no hazard.
Test on model BL11						
DC fan	Locked	19	1.5 hr	--	--	Unit shutdown. Max. temp. of PCB near CPU=84.8°C, Bottom enclosure near CPU =62.9°C. Ambient=27.4°C.
Ventilation openings	Blocked	19	2 hr	--	--	Unit shutdown. Max. temp. of PCB near CPU=81.1°C, Bottom enclosure near CPU =68.1°C. Ambient=28.0°C.
Charger circuit in main board, test with Sony battery pack, type BATBLB3L61						
Empty battery pack	Charge	19	7 hr	--	--	Charging current=3.15A. No damaged, no hazard.
Full battery pack	Discharge	--	7 hr	--	--	Discharge current=5.89A. No damaged, no hazard.
Charger circuit in main board, test with Sony battery pack, type BATBLB3L62						
Empty battery pack	Charge	19	7 hr	--	--	Charging current=3.65A. No damaged, no hazard.
Full battery pack	Discharge	--	7 hr	--	--	Discharge current=5.99A. No damaged, no hazard.
Charger circuit in main board, test with Sanyo battery pack, type BATAW20L61						
Empty battery pack	Charge	19	7 hr	--	--	Charging current=3.27A. No damaged, no hazard.
Full battery pack	Discharge	--	7 hr	--	--	Discharge current=5.71A. No damaged, no hazard.
Charger circuit in main board, test with Sanyo battery pack, type BATAW20L62						
Empty battery pack	Charge	19	7 hr	--	--	Charging current=3.68A. No damaged, no hazard.
Full battery pack	Discharge	--	7 hr	--	--	Discharge current=5.99A. No damaged, no hazard.
PQ101 pin 1 – 8	s-c	19	7 hr	--	--	Charging current to battery is dropped to 0A. No hazard. (Test with full charged battery pack)

Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
PQ102 pin 1 – 8	s-c	19	7 hr	--	--	Charging current to battery is dropped to 0A. No hazard. (Test with full charged battery pack)
PR101 pin 1 – 4	s-c	19	7 hr	--	--	Charging current to battery is dropped to 0A. No hazard. (Test with full charged battery pack)
PQ108 pin 1 – 8	s-c	19	7 hr	--	--	Charging current to battery is dropped to 0A. No hazard. (Test with full charged battery pack)
PQ110 pin 1 – 8	s-c	19	7 hr	--	--	Charging current to battery is dropped to 0A. No hazard. (Test with full charged battery pack)
PL102 pin 1 – 2	s-c	19	7 hr	--	--	Charging current to battery is dropped to 0A. No hazard. (Test with full charged battery pack)
PR102 pin 1 – 4	s-c	19	7 hr	--	--	Charging current to battery is dropped to 0A. No hazard. (Test with full charged battery pack)
Data ports						
RJ45 port pin 1~8 – RTN	o-l	19	20 min	--	--	Max. available current is 0A (0V), no hazard.
Card reader port pin 1~12, 14~21 – RTN	o-l	19	20 min	--	--	Max. available current is 0A (0V), no hazard.
Card reader port pin 13 – RTN	o-l	19	20 min	--	--	Max. available current is 0A (0.67V), no hazard.
Audio amplifiers (speaker)	s-c	19	20 min	--	--	Unit operated normally, no hazard.
Test on model BL10						
Charger circuit in main board, test with Celxpert battery pack, type BATBL10L61						
Empty battery pack	Charge	19	7 hr	--	--	Charging current=3.17A. No damaged, no hazard.
Full battery pack	Discharge	--	7 hr	--	--	Discharge current=4.36A No damaged, no hazard.

Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
Charger circuit in main board, test with Celxpert battery pack, type BATBL10L62						
Empty battery pack	Charge	19	7 hr	--	--	Charging current=3.70A. No damaged, no hazard.
Full battery pack	Discharge	--	7 hr	--	--	Discharge current=4.37A. No damaged, no hazard.
Test on model BL11						
Charger circuit in main board, test with Celxpert battery pack, type BATBL10L61						
Empty battery pack	Charge	19	7 hr	--	--	Charging current=3.17A. No damaged, no hazard.
Full battery pack	Discharge	--	7 hr	--	--	Discharge current=4.42A. No damaged, no hazard.
Charger circuit in main board, test with Celxpert battery pack, type BATBL10L62						
Empty battery pack	Charge	19	7 hr	--	--	Charging current=3.70A. No damaged, no hazard.
Full battery pack	Discharge	--	7 hr	--	--	Discharge current=5.94A. No damaged, no hazard.
Test on model CW20						
DC fan	Locked	19	2 hr	--	--	Unit operated normally. Max. temp. of PCB near CPU=67.4°C, Bottom enclosure near CPU =43.8°C. Ambient=23.3°C.
Ventilation openings	Blocked	19	2 hr	--	--	Unit shutdown. Max. temp. of PCB near CPU=46.3°C, Bottom enclosure near CPU =39.1°C. Ambient=22.9°C.
Charger circuit in main board, test with Sony battery pack, type BATBLB3L61						
Empty battery pack	Charge	19	7 hr	--	--	Charging current=3.13A. No damaged, no hazard.
Full battery pack	Discharge	--	7 hr	--	--	Discharge current=3.18A. No damaged, no hazard.
Charger circuit in main board, test with Sony battery pack, type BATBLB3L62						
Empty battery pack	Charge	19	7 hr	--	--	Charging current=3.13A. No damaged, no hazard.
Full battery pack	Discharge	--	7 hr	--	--	Discharge current=3.64A. No damaged, no hazard.

Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
Charger circuit in main board, test with Sanyo battery pack, type BATAW20L61						
Empty battery pack	Charge	19	7 hr	--	--	Charging current=3.14A. No damaged, no hazard.
Full battery pack	Discharge	--	7 hr	--	--	Discharge current=3.20A. No damaged, no hazard.
Charger circuit in main board, test with Sanyo battery pack, type BATAW20L62						
Empty battery pack	Charge	19	7 hr	--	--	Charging current=3.09A. No damaged, no hazard.
Full battery pack	Discharge	--	7 hr	--	--	Discharge current=3.67A. No damaged, no hazard.
Charger circuit in main board, test with Celxpert battery pack, type BATBL10L61						
Empty battery pack	Charge	19	7 hr	--	--	Charging current=2.97A. No damaged, no hazard.
Full battery pack	Discharge	--	7 hr	--	--	Discharge current=3.18A. No damaged, no hazard.
Charger circuit in main board, test with Celxpert battery pack, type BATBL10L62						
Empty battery pack	Charge	19	7 hr	--	--	Charging current=2.98A. No damaged, no hazard.
Full battery pack	Discharge	--	7 hr	--	--	Discharge current=3.72A. No damaged, no hazard.
PQ101 pin 1 – 8	s-c	19	7 hr	--	--	Charging current to battery is dropped to 0A. No hazard. (Test with full charged battery pack)
PQ102 pin 1 – 8	s-c	19	7 hr	--	--	Charging current to battery is dropped to 0A. No hazard. (Test with full charged battery pack)
PR101 pin 1 – 4	s-c	19	7 hr	--	--	Charging current to battery is dropped to 0A. No hazard. (Test with full charged battery pack)
PQ108 pin 1 – 8	s-c	19	7 hr	--	--	Charging current to battery is dropped to 0A. No hazard. (Test with full charged battery pack)

Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
PQ110 pin 1 – 5	s-c	19	7 hr	--	--	Charging current to battery is dropped to 0A. No hazard. (Test with full charged battery pack)
PL101 pin 1 – 2	s-c	19	7 hr	--	--	Charging current to battery is dropped to 0A. No hazard. (Test with full charged battery pack)
PR102 pin 1 – 4	s-c	19	7 hr	--	--	Charging current to battery is dropped to 0A. No hazard. (Test with full charged battery pack)
Data ports						
RJ45 port pin 1~8 – RTN	o-l	19	20 min	--	--	Max. available current is 0A (0V), no hazard.
Card reader port pin 1~12, 14~21 – RTN	o-l	19	20 min	--	--	Max. available current is 0A (0V), no hazard.
Card reader port pin 13 – RTN	o-l	19	20 min	--	--	Max. available current is 0A (0.65V), no hazard.
Test on model VBL31 (Intel CUP/chip set, Discrete type main board B)						
DC fan	Locked	19	1 hr	--	--	Unit shutdown. Max. temp. of PCB near CPU=62.1°C, Bottom enclosure near CPU =43.5°C. Ambient=27.9°C.
Ventilation openings	Blocked	19	1 hr	--	--	Unit shutdown. Max. temp. of PCB near CPU=65.3°C, Bottom enclosure near CPU =47.8°C. Ambient=26.3°C.
Charger circuit in main board, test with Celxpert battery pack, type BATBL10L61						
Empty battery pack	Charge	19	7 hr	--	--	Charging current=3.01A. No damaged, no hazard.
Full battery pack	Discharge	--	7 hr	--	--	Discharge current=4.40A No damaged, no hazard.
PQ102 pin 1 – 5	s-c	19	7 hr	--	--	Charging current to battery is dropped to 0A. No hazard. (Test with full charged battery pack)

Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
PQ103 pin 1 – 8	s-c	19	7 hr	--	--	Charging current to battery is dropped to 0A. No hazard. (Test with full charged battery pack)
PQ105 pin 1 – 5	s-c	19	7 hr	--	--	Charging current to battery is dropped to 0A. No hazard. (Test with full charged battery pack)
PL100	s-c	19	7 hr	--	--	Charging current to battery is dropped to 0A. No hazard. (Test with full charged battery pack)
PL101	s-c	19	7 hr	--	--	Charging current to battery is dropped to 0A. No hazard. (Test with full charged battery pack)
PR102 pin 1 – 4	s-c	19	7 hr	--	--	Charging current to battery is dropped to 0A. No hazard. (Test with full charged battery pack)
PR114 pin 1 – 4	s-c	19	7 hr	--	--	Charging current to battery is dropped to 0A. No hazard. (Test with full charged battery pack)
Data ports						
RJ45 port pin 1~8 – RTN	o-l	19	20 min	--	--	Max. available current is 0A (0V), no hazard.
Card reader port pin 1~5, 7~20 – RTN	o-l	19	20 min	--	--	Max. available current is 0A (0V), no hazard.
Card reader port pin 6 – RTN	o-l	19	20 min	--	--	Max. available current is 0A (0.6V), no hazard.
HDMI port pin 1~14 – RTN	o-l	19	20 min	--	--	Max. available current is 0A (0V), no hazard.
HDMI port pin 15, 16 – RTN	o-l	19	20 min	--	--	Max. available current is 0A (4.73V), no hazard.
HDMI port pin 17 – RTN	o-l	19	20 min	--	--	Max. available current is 0A (0V), no hazard.
HDMI port pin 18 – RTN	o-l	19	1 hr	--	--	Max. available current is 2.17A (5.03V), no hazard.

Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
HDMI port pin 19 – RTN	o-l	19	20 min	--	--	Max. available current is 0A (0V), no hazard.
VGA port pin 1~8, 10, 11, 16 – RTN	o-l	19	20 min	--	--	Max. available current is 0A (0V), no hazard.
VGA port pin 9 – RTN	o-l	19	1 hr	--	--	Max. available current is 2.34A (4.94V), no hazard.
VGA port pin 12 – RTN	o-l	19	20 min	--	--	Max. available current is 0A (4.37V), no hazard.
VGA port pin 14 – RTN	o-l	19	20 min	--	--	Max. available current is 0A (4.93V), no hazard.
VGA port pin 15 – RTN	o-l	19	20 min	--	--	Max. available current is 0A (4.36V), no hazard.
Test on model VBL31 (Intel CUP/chip set, Discrete type main board C)						
DC fan	Locked	19	2 hr	--	--	Unit shutdown. Max. temp. of PCB near CPU=77.1°C, Bottom enclosure near CPU =45.8°C. Ambient=27.5°C.
Ventilation openings	Blocked	19	2 hr	--	--	Unit operated normally. Max. temp. of PCB near CPU=83.1°C, Bottom enclosure near CPU =62.2°C. Ambient=26.6°C.
Supplementary information:						
s-c=short circuit, o-l=over load						

C.2	TABLE: transformers							N/A
Loc.	Tested insulation	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)	Required distance thr. insul. (2.10.5)	
Loc.	Tested insulation			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers	
Supplementary information:								

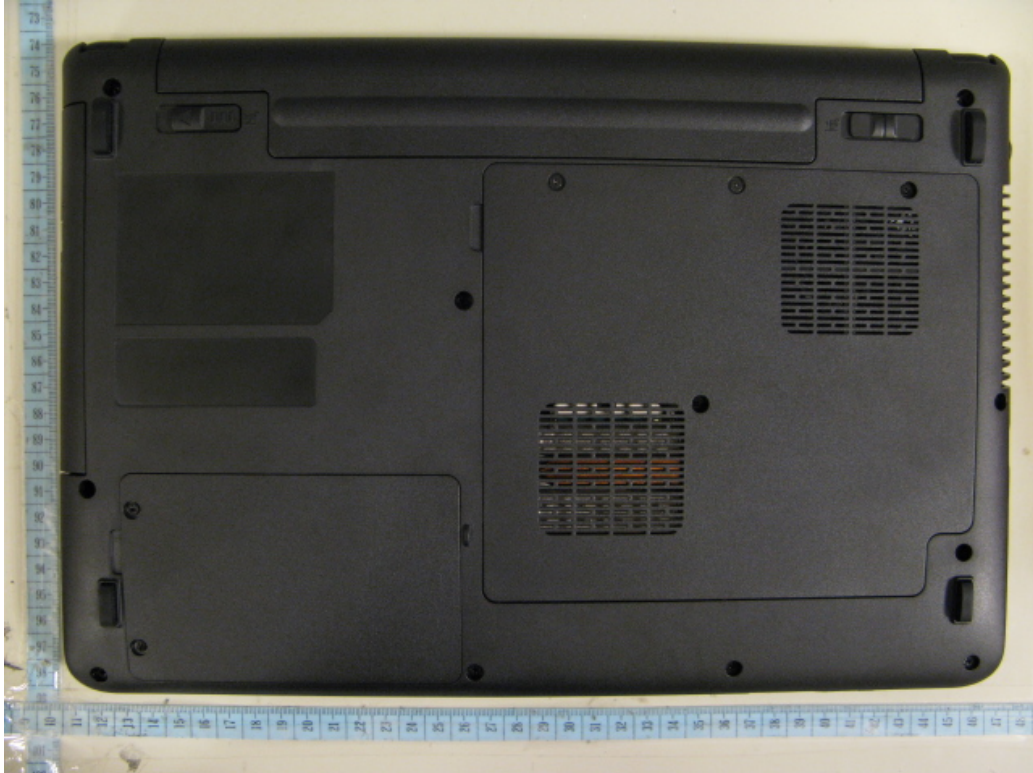
Photos

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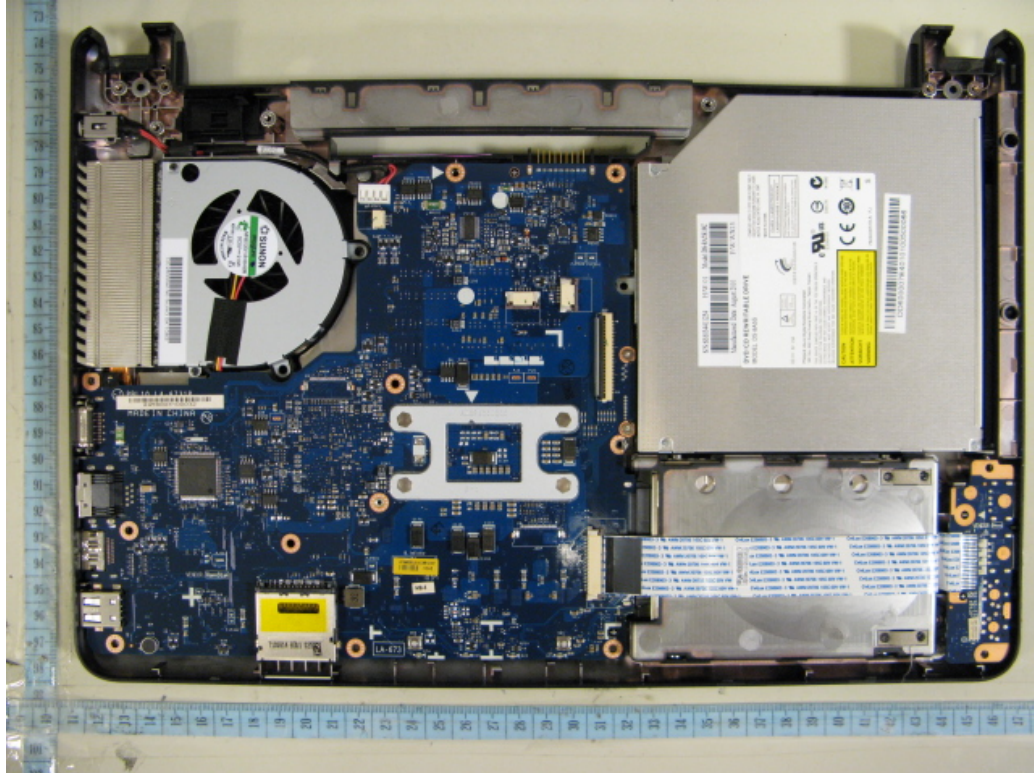
Model BL10; BL11



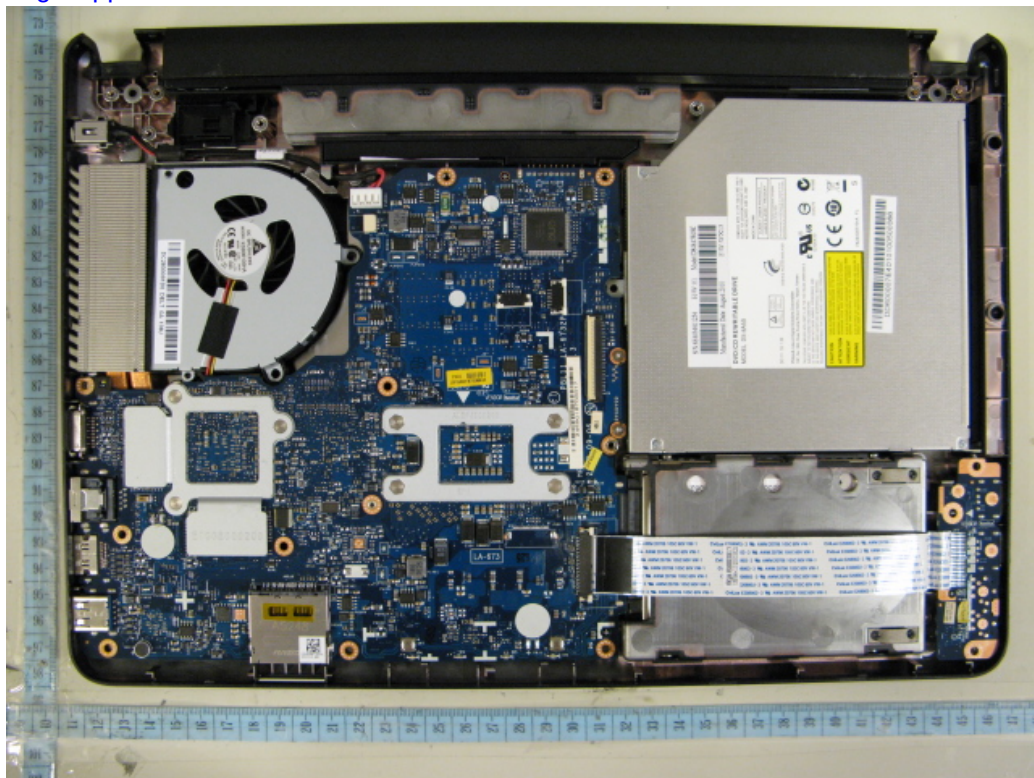
Model BL10; BL11



Logic upper for BL10



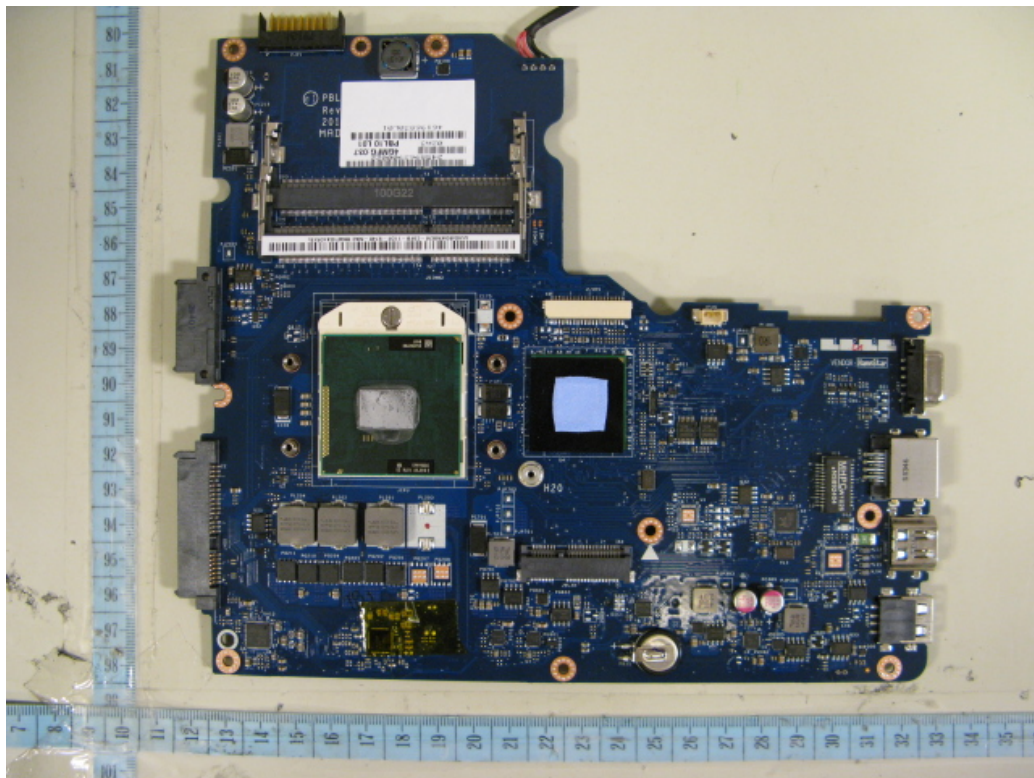
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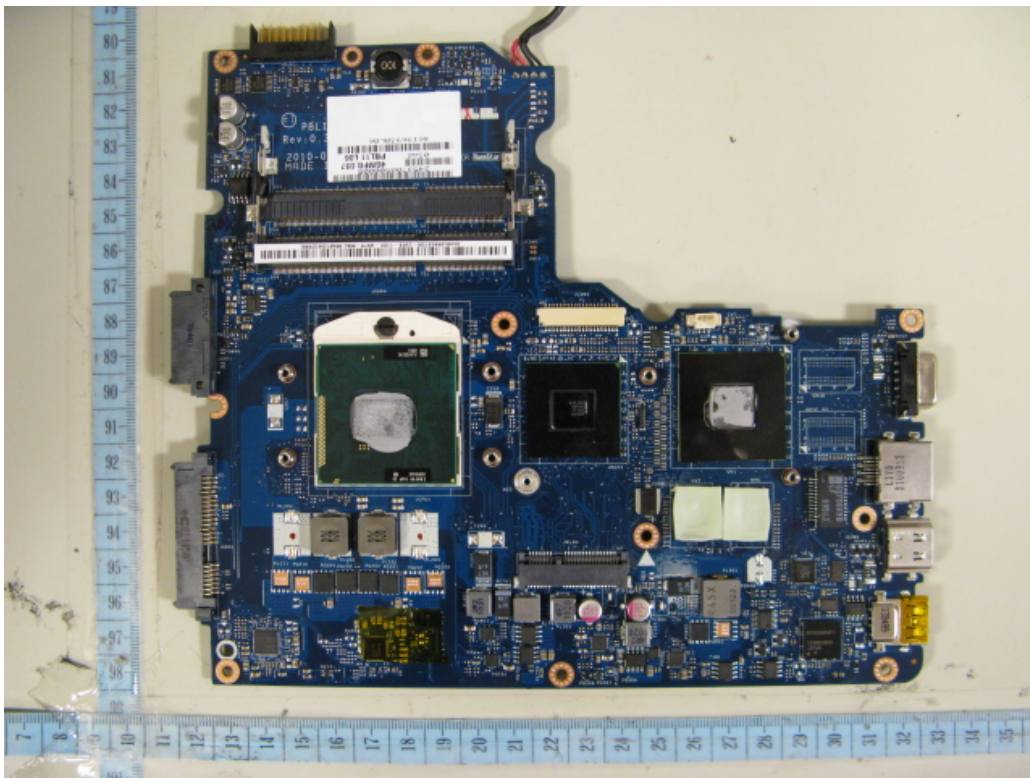
Photos

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Main board for BL10



Main board for BL11



Photos

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Model CW20



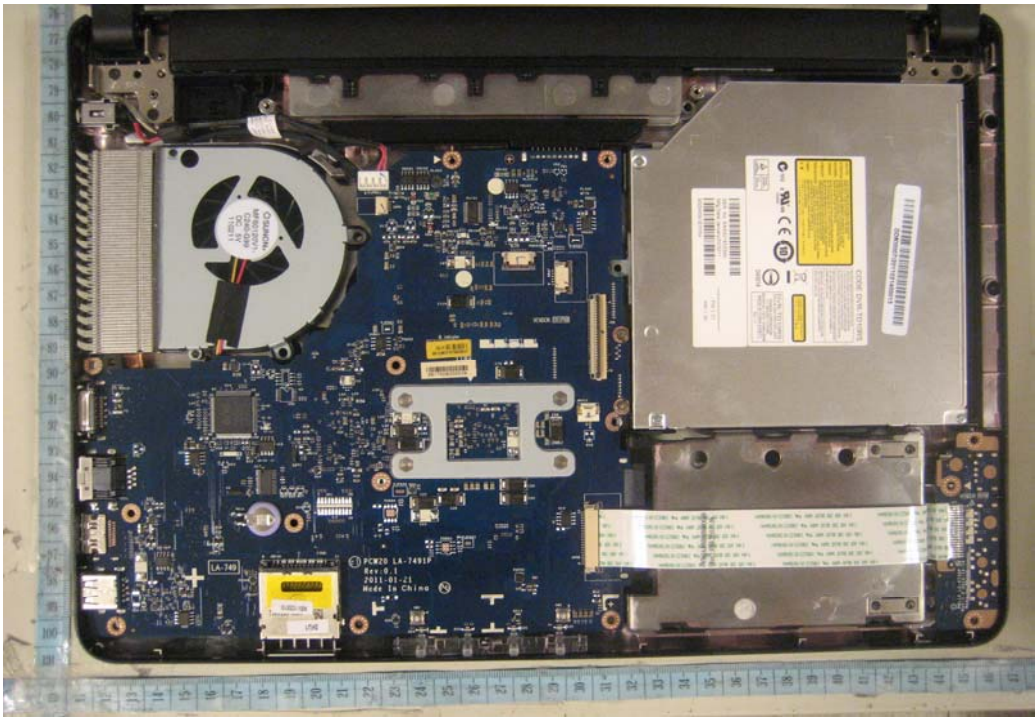
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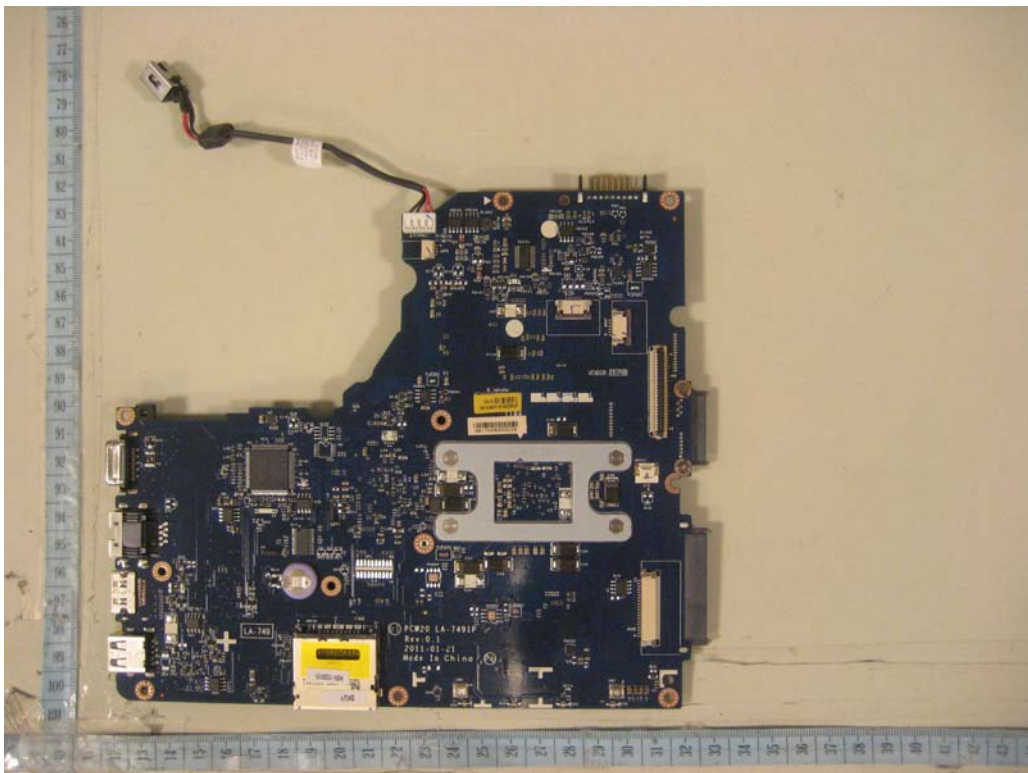
Model CW20



Model CW20



AMD CPU/chip set main board for model CW20



Model VBL30; VBL31



Model VBL30; VBL31



Photos

Report No. 226382

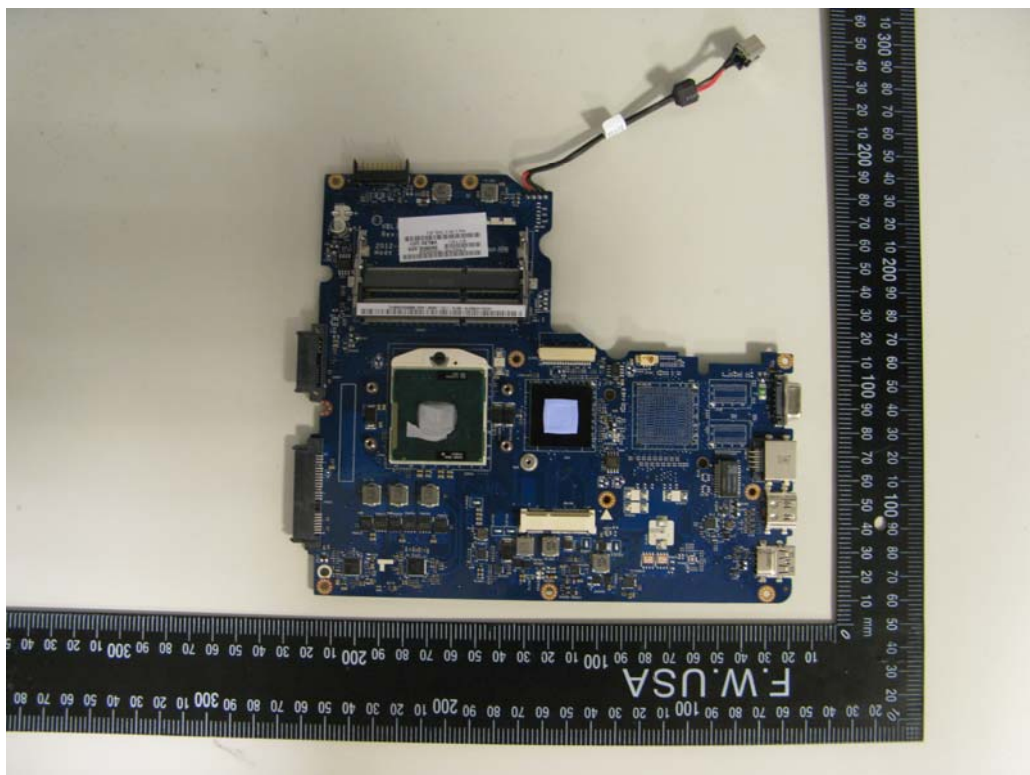
Model VBL30; VBL31



Photos

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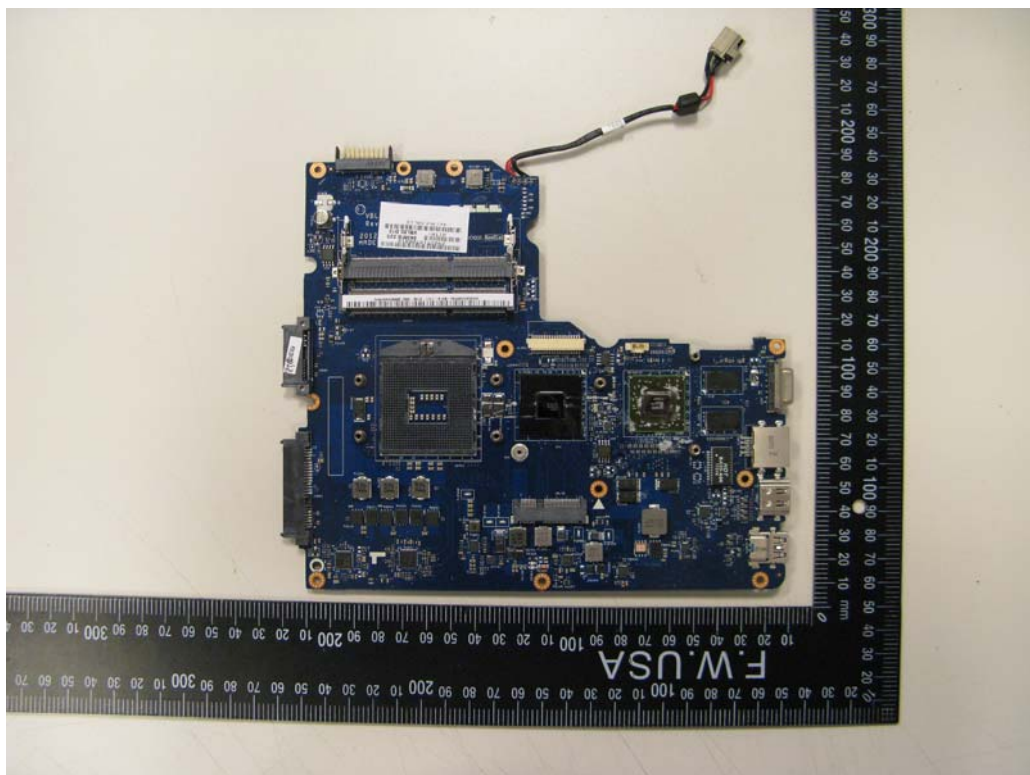
Intel CUP/chip set UMA type main board (B) for model VBL30



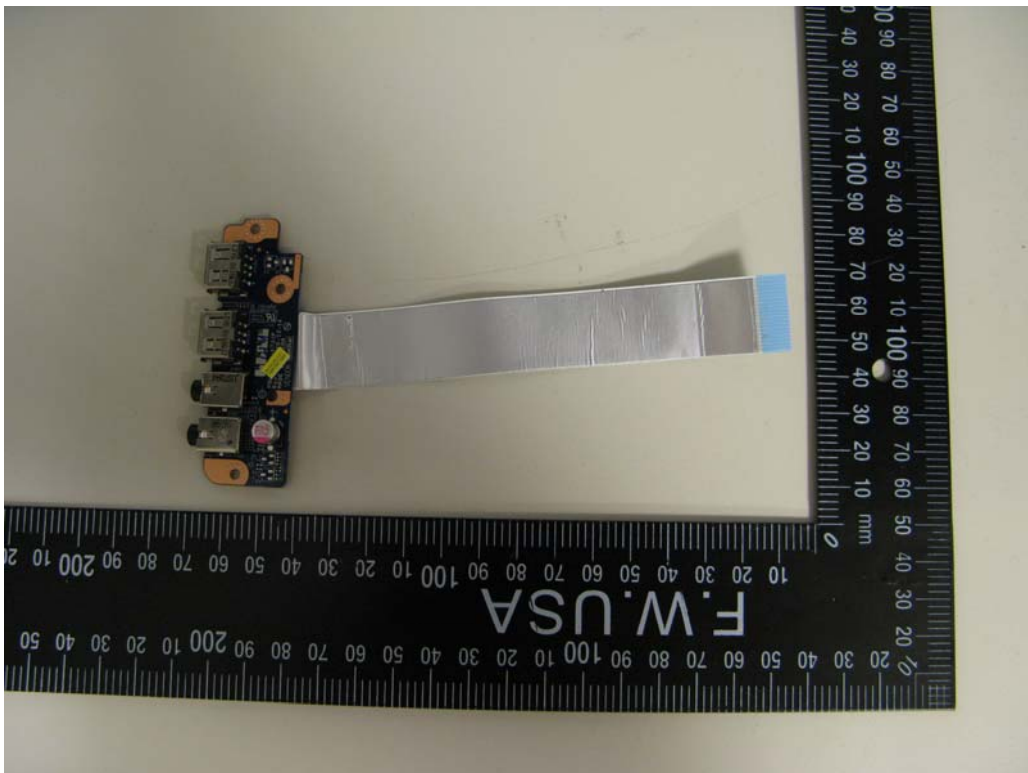
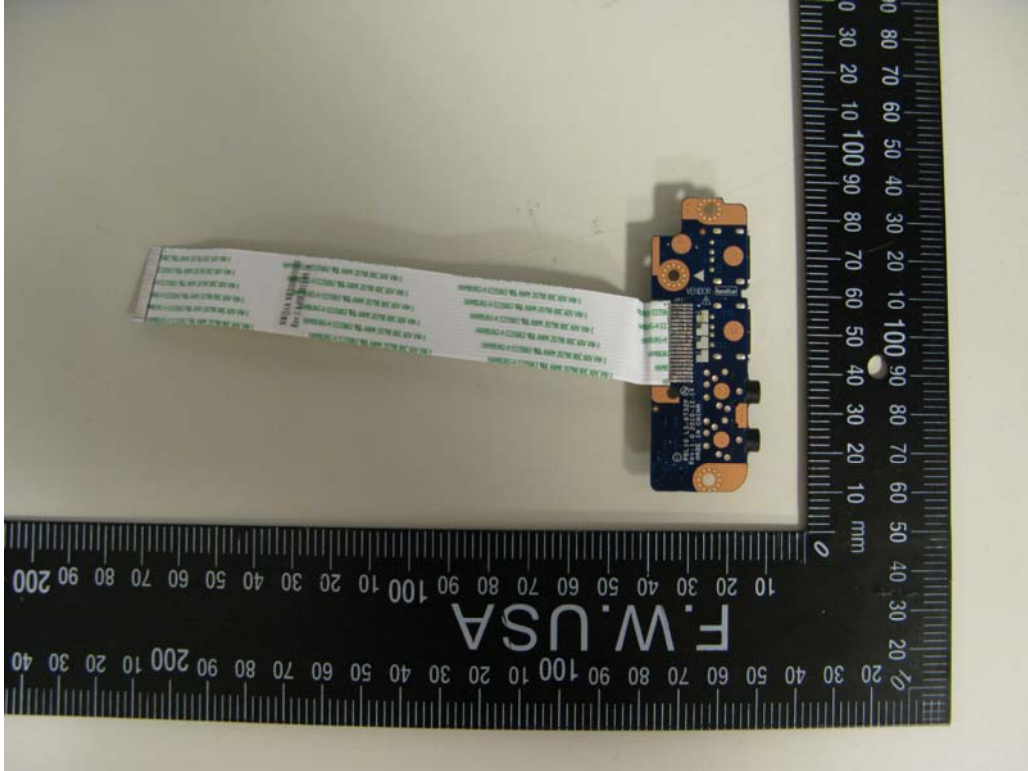
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Intel CUP/chip set Discrete type main board (B) for model VBL31



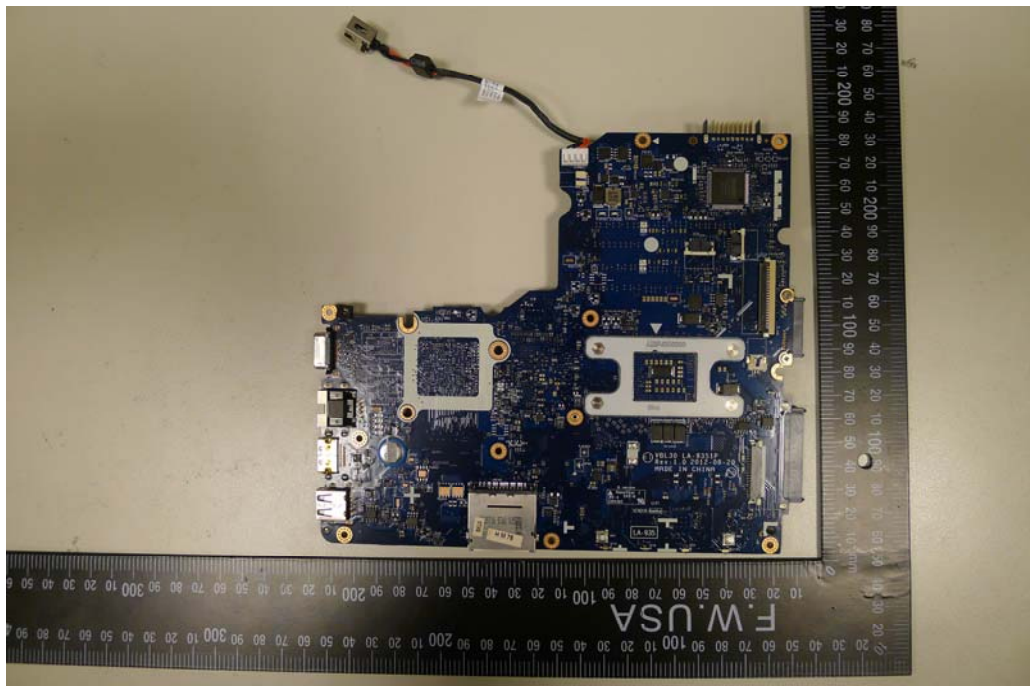
Sub-board



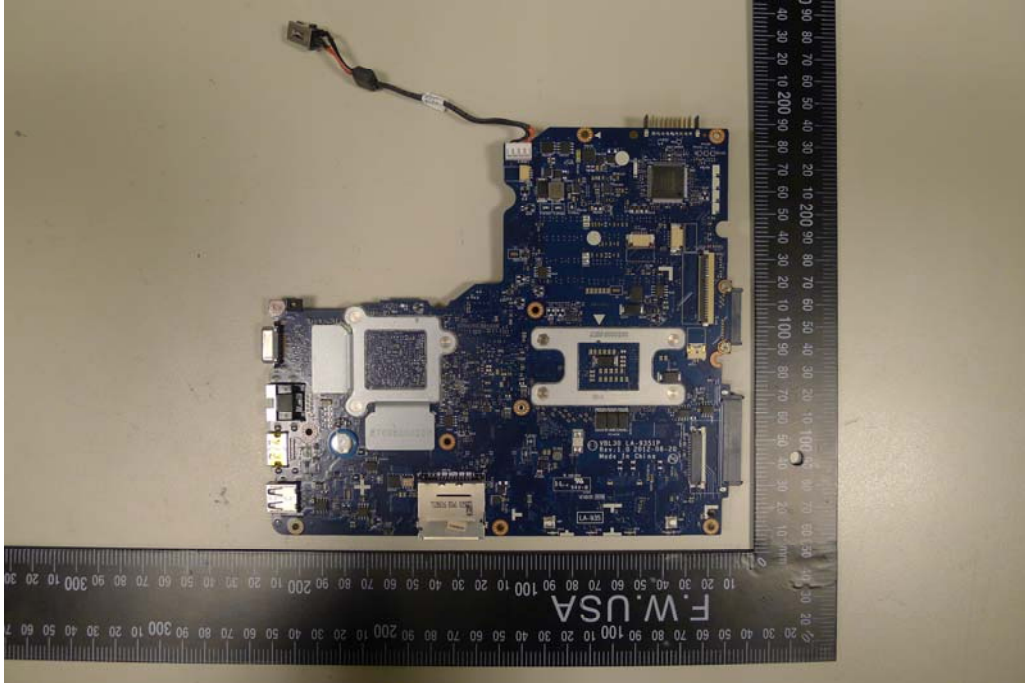
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Report No. 226382

Intel CUP/chip set UMA type main board (C) for model VBL30



Intel CUP/chip set Discrete type main board (C) for model VBL31



IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements			
Differences according to: EN 60950-1:2006/A11:2009/A1:2010/A12:2011			
Attachment Form No.: EU_GD_IEC60950_1C_II			
Attachment Originator: SGS Fimko Ltd			
Master Attachment: Date 2011-08			
Copyright © 2011 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.			

EN 60950-1:2006/A11:2009/A1:2010/A12:2011 – CENELEC COMMON MODIFICATIONS

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)				
Clause	Requirement + Test			Verdict
Contents	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions			P
General	Delete all the “country” notes in the reference document (IEC 60950-1:2005) according to the following list: 1.4.8 Note 2 1.5.1 Note 2 & 3 1.5.7.1 Note 1.5.8 Note 2 1.5.9.4 Note 1.7.2.1 Note 4, 5 & 6 2.2.3 Note 2.2.4 Note 2.3.2 Note 2.3.2.1 Note 2 2.3.4 Note 2 2.6.3.3 Note 2 & 3 2.7.1 Note 2.10.3.2 Note 2 2.10.5.13 Note 3 3.2.1.1 Note 3.2.4 Note 3. 2.5.1 Note 2 4.3.6 Note 1 & 2 4.7 Note 4 4.7.2.2 Note 4.7.3.1 Note 2 5.1.7.1 Note 3 & 4 5.3.7 Note 1 6 Note 2 & 5 6.1.2.1 Note 2 6.1.2.2 Note 6.2.2 Note 6.2.2.1 Note 2 6.2.2.2 Note 7.1 Note 3 7.2 Note 7.3 Note 1 & 2 G.2.1 Note 2 Annex H Note 2			P
General (A1:2010)	Delete all the “country” notes in the reference document (IEC 60950-1:2005/A1:2010) according to the following list: 1.5.7.1 Note 6.1.2.1 Note 2 6.2.2.1 Note 2 EE.3 Note			P

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.3.Z1	Add the following subclause: 1.3.Z1 Exposure to excessive sound pressure The apparatus shall be so designed and constructed as to present no danger when used for its intended purpose, either in normal operating conditions or under fault conditions, particularly providing protection against exposure to excessive sound pressures from headphones or earphones. NOTE Z1 A new method of measurement is described in EN 50332-1, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for "one package equipment", and in EN 50332-2, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Guidelines to associate sets with headphones coming from different manufacturers.	Not applicable. (However the measurement of sound pressure level is 103mV)	N/A
(A12:2011)	In EN 60950-1:2006/A12:2011 Delete the addition of 1.3.Z1 / EN 60950-1:2006 Delete the definition 1.2.3.Z1 / EN 60950-1:2006 /A1:2010	Deleted.	N/A
1.5.1	Add the following NOTE: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC	Considered.	P
1.7.2.1 (A1:2010)	In addition, for a PORTABLE SOUND SYSTEM, the instructions shall include a warning that excessive sound pressure from earphones and headphones can cause hearing loss.	Not a PORTABLE SOUND SYSTEM.	N/A
1.7.2.1 (A12.2011)	In EN 60950-1:2006/A12:2011 Delete NOTE Z1 and the addition for Portable Sound System. Add the following clause and annex to the existing standard and amendments.	Not a PORTABLE SOUND SYSTEM.	N/A
	Zx Protection against excessive sound pressure from personal music players		

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.1 General This sub-clause specifies requirements for protection against excessive sound pressure from personal music players that are closely coupled to the ear. It also specifies requirements for earphones and headphones intended for use with personal music players. A personal music player is a portable equipment for personal use, that: – is designed to allow the user to listen to recorded or broadcast sound or video; and – primarily uses headphones or earphones that can be worn in or on or around the ears; and – allows the user to walk around while in use. NOTE 1 Examples are hand-held or body-worn portable CD players, MP3 audio players, mobile phones with MP3 type features, PDA's or similar equipment. A personal music player and earphones or headphones intended to be used with personal music players shall comply with the requirements of this sub-clause. The requirements in this sub-clause are valid for music or video mode only. The requirements do not apply: – while the personal music player is connected to an external amplifier; or – while the headphones or earphones are not used. NOTE 2 An external amplifier is an amplifier which is not part of the personal music player or the listening device, but which is intended to play the music as a standalone music player. The requirements do not apply to: – hearing aid equipment and professional equipment; NOTE 3 Professional equipment is equipment sold through special sales channels. All products sold through normal electronics stores are considered not to be professional equipment.	Not a personal music player.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	– analogue personal music players (personal music players without any kind of digital processing of the sound signal) that are brought to the market before the end of 2015. NOTE 4 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies. For equipment which is clearly designed or intended for use by young children, the limits of EN 71-1 apply.	Not a personal music player.	N/A
	Zx.2 Equipment requirements No safety provision is required for equipment that complies with the following: – equipment provided as a package (personal music player with its listening device), where the acoustic output $L_{Aeq,T}$ is ≤ 85 dBA measured while playing the fixed “programme simulation noise” as described in EN 50332-1; and – a personal music player provided with an analogue electrical output socket for a listening device, where the electrical output is ≤ 27 mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” as described in EN 50332-1. NOTE 1 Wherever the term acoustic output is used in this clause, the 30 s A-weighted equivalent sound pressure level $L_{Aeq,T}$ is meant. See also Zx.5 and Annex Zx. All other equipment shall: a) protect the user from unintentional acoustic outputs exceeding those mentioned above; and b) have a standard acoustic output level not exceeding those mentioned above, and automatically return to an output level not exceeding those mentioned above when the power is switched off; and	Not a personal music player.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	c) provide a means to actively inform the user of the increased sound pressure when the equipment is operated with an acoustic output exceeding those mentioned above. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an acoustic output exceeding those mentioned above. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time; and NOTE 2 Examples of means include visual or audible signals. Action from the user is always required. NOTE 3 The 20 h listening time is the accumulative listening time, independent how often and how long the personal music player has been switched off. d) have a warning as specified in Zx.3; and e) not exceed the following: 1) equipment provided as a package (player with its listening device), the acoustic output shall be ≤ 100 dBA measured while playing the fixed "programme simulation noise" described in EN 50332-1; and 2) a personal music player provided with an analogue electrical output socket for a listening device, the electrical output shall be ≤ 150 mV measured as described in EN 50332-2, while playing the fixed "programme simulation noise" described in EN 50332-1. For music where the average sound pressure (long term $L_{Aeq,T}$) measured over the duration of the song is lower than the average produced by the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. In this case T becomes the duration of the song. NOTE 4 Classical music typically has an average sound pressure (long term $L_{Aeq,T}$) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the song and compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. For example, if the player is set with the programme simulation noise to 85 dBA, but the average music level of the song is only 65 dBA, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dBA.	Not a personal music player.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.3 Warning The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following: – the symbol of Figure 1 with a minimum height of 5 mm; and – the following wording, or similar: “To prevent possible hearing damage, do not listen at high volume levels for long periods.”  Figure 1 – Warning label (IEC 60417-6044) Alternatively, the entire warning may be given through the equipment display during use, when the user is asked to acknowledge activation of the higher level.	Not a personal music player.	N/A
	Zx.4 Requirements for listening devices (headphones and earphones)		N/A
	Zx.4.1 Wired listening devices with analogue input With 94 dBA sound pressure output $L_{Aeq,T}$, the input voltage of the fixed “programme simulation noise” described in EN 50332-2 shall be ≥ 75 mV. This requirement is applicable in any mode where the headphones can operate (active or passive), including any available setting (for example built-in volume level control). NOTE The values of 94 dBA – 75 mV correspond with 85dBA – 27 mV and 100 dBA – 150 mV.	Not a personal music player.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.4.2 Wired listening devices with digital input With any playing device playing the fixed “programme simulation noise” described in EN 50332-1 (and respecting the digital interface standards, where a digital interface standard exists that specifies the equivalent acoustic level), the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA. This requirement is applicable in any mode where the headphones can operate, including any available setting (for example built-in volume level control, additional sound feature like equalization, etc.). NOTE An example of a wired listening device with digital input is a USB headphone.	Not a personal music player.	N/A
	Zx.4.3 Wireless listening devices In wireless mode: – with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and – respecting the wireless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and – with volume and sound settings in the listening device (for example built-in volume level control, additional sound feature like equalization, etc.) set to the combination of positions that maximize the measured acoustic output for the abovementioned programme simulation noise, the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA. NOTE An example of a wireless listening device is a Bluetooth headphone.	Not a personal music player.	N/A
	Zx.5 Measurement methods Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable. Unless stated otherwise, the time interval T shall be 30 s. NOTE Test method for wireless equipment provided without listening device should be defined.	Not a personal music player.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
2.7.1	Replace the subclause as follows: Basic requirements To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation; c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.	Class III equipment, not direct connected to the AC mains.	N/A
2.7.2	This subclause has been declared 'void'.	Class III equipment, not direct connected to the AC mains.	N/A
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.	Class III equipment, no power supply cord provide.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)									
Clause	Requirement + Test	Result - Remark	Verdict						
3.2.5.1	Replace “60245 IEC 53” by “H05 RR-F”; “60227 IEC 52” by “H03 VV-F or H03 VVH2-F”; “60227 IEC 53” by “H05 VV-F or H05 VVH2-F2”. In Table 3B, replace the first four lines by the following: <table><tr><td>Up to and including 6 </td><td>0,75 ^{a)} </td></tr><tr><td>Over 6 up to and including 10 (0,75) ^{b)}</td><td>1,0 </td></tr><tr><td>Over 10 up to and including 16 (1,0) ^{c)}</td><td>1,5 </td></tr></table> In the conditions applicable to Table 3B delete the words “in some countries” in condition ^{a)}. In NOTE 1, applicable to Table 3B, delete the second sentence.	Up to and including 6	0,75 ^{a)}	Over 6 up to and including 10 (0,75) ^{b)}	1,0	Over 10 up to and including 16 (1,0) ^{c)}	1,5	Class III equipment, no power supply cord provide.	N/A
Up to and including 6	0,75 ^{a)}								
Over 6 up to and including 10 (0,75) ^{b)}	1,0								
Over 10 up to and including 16 (1,0) ^{c)}	1,5								
3.3.4	In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following: Over 10 up to and including 16 1,5 to 2,5 1,5 to 4 Delete the fifth line: conductor sizes for 13 to 16 A	Class III equipment, no power supply cord provide.	N/A						
4.3.13.6 (A1:2010)	Replace the existing NOTE by the following: NOTE Z1 Attention is drawn to: 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz, and 2006/25/EC: Directive on the minimum health and safety requirements regarding the exposure of workers to risks arising from physical agents (artificial optical radiation).	Replaced	N/A						
	Standards taking into account mentioned Recommendation and Directive which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.	Not applicable.	N/A						
Annex H	Replace the last paragraph of this annex by: At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 µSv/h (0,1 mR/h) (see NOTE). Account is taken of the background level. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete NOTE 2.	Replaced, the unit does not emit X-ray radiation.	N/A						
Bibliography	Additional EN standards.		—						

ZA	NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS	—
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IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.2.4.1	In Denmark , certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.	Class III equipment, no power supply cord provide.	N/A
1.2.13.14	In Norway and Sweden , for requirements see 1.7.2.1 and 7.3 of this annex.	Class III equipment.	N/A
1.5.7.1	In Finland, Norway and Sweden , resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.	Class III equipment.	N/A
1.5.8	In Norway , due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).	Class III equipment.	N/A
1.5.9.4	In Finland, Norway and Sweden , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.	Class III equipment.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.1	In Finland, Norway and Sweden, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows: In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In Norway: "Apparatet må tilkoples jordet stikkontakt" In Sweden: "Apparaten skall anslutas till jordat uttag" In Norway and Sweden, the screen of the cable distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation need to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by e.g. a retailer. The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in: "Equipment connected to the protective earthing of the building installation through the mains connection or through other equipment with a connection to protective earthing – and to a cable distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a cable distribution system has therefore to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)."	Class III equipment.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	NOTE In Norway, due to regulation for installations of cable distribution systems, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): “Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkople utstyr – og er tilkople et kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkople av utstyret til kabel-TV nettet installeres en galvanisk isolator mellom utstyret og kabel- TV nettet.” Translation to Swedish: ”Utrustning som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av utrustningen till kabel-TV nät galvanisk isolator finnas mellan utrustningen och kabel-TV nätet.”		
1.7.5	In Denmark, socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a. For CLASS II EQUIPMENT the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.	Class III equipment.	N/A
2.2.4	In Norway, for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.	No TNV circuits.	N/A
2.3.2	In Finland, Norway and Sweden there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.	No TNV circuits.	N/A
2.3.4	In Norway, for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.	No TNV circuits.	N/A
2.6.3.3	In the United Kingdom, the current rating of the circuit shall be taken as 13 A, not 16 A.	Class III equipment.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
2.7.1	In the United Kingdom , to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.	Not Direct Plug-In equipment.	N/A
2.10.5.13	In Finland, Norway and Sweden , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.	No TNV circuits.	N/A
3.2.1.1	In Switzerland, supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets: SEV 6532-2.1991 Plug Type 15 3P+N+PE 250/400 V, 10 A SEV 6533-2.1991 Plug Type 11 L+N 250 V, 10 A SEV 6534-2.1991 Plug Type 12 L+N+PE 250 V, 10 A In general, EN 60309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998: SEV 5932-2.1998: Plug Type 25 , 3L+N+PE 230/400 V, 16 A SEV 5933-2.1998: Plug Type 21, L+N, 250 V, 16A SEV 5934-2.1998: Plug Type 23, L+N+PE 250 V, 16 A	Class III equipment, no power supply cord provide.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	In Denmark, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.	Class III equipment, no power supply cord provide.	N/A
3.2.1.1	In Spain, supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994. Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994. If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.	Class III equipment, no power supply cord provide.	N/A
3.2.1.1	In the United Kingdom, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations. NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.	Class III equipment, no power supply cord provide.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	In Ireland , apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.	Class III equipment, no power supply cord provide.	N/A
3.2.4	In Switzerland , for requirements see 3.2.1.1 of this annex.	Class III equipment, no power supply cord provide.	N/A
3.2.5.1	In the United Kingdom , a power supply cord with conductor of 1,25 mm ² is allowed for equipment with a rated current over 10 A and up to and including 13 A.	Class III equipment, no power supply cord provide.	N/A
3.3.4	In the United Kingdom , the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is: • 1,25 mm ² to 1,5 mm ² nominal cross-sectional area.	Class III equipment, no power supply cord provide.	N/A
4.3.6	In the United Kingdom , the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.	Not Direct plug-In equipment.	N/A
4.3.6	In Ireland , DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.	Not Direct plug-In equipment.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
5.1.7.1	In Finland, Norway and Sweden TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment: • STATIONARY PLUGGABLE EQUIPMENT TYPE A that - is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and - has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and - is provided with instructions for the installation of that conductor by a SERVICE PERSON; • STATIONARY PLUGGABLE EQUIPMENT TYPE B; • STATIONARY PERMANENTLY CONNECTED EQUIPMENT.	Class III equipment, not direct connected to the AC mains	N/A
6.1.2.1 (A1:2010)	In Finland, Norway and Sweden, add the following text between the first and second paragraph of the compliance clause: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. Alternatively for components, there is no distance through insulation requirements for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition - passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV.	No TNV circuits.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b). It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 60384-14: - the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.		
6.1.2.2	In Finland, Norway and Sweden , the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.	No TNV circuits.	N/A
7.2	In Finland, Norway and Sweden , for requirements see 6.1.2.1 and 6.1.2.2 of this annex. The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.	Not connected to a cable distribution system.	N/A
7.3	In Norway and Sweden , for requirements see 1.2.13.14 and 1.7.2.1 of this annex.	Not connected to a cable distribution system.	N/A
7.3	In Norway , for installation conditions see EN 60728-11:2005.	Not connected to a cable distribution system.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
National Differences for Korea			N/A
1.5.101	Addition Plugs for the connection of the apparatus to the supply mains shall comply with the Korean requirement (KSC 8305 and 8305).	Class III equipment.	N/A
8	Addition EMC The apparatus shall comply with the relevant CISPR standards.	Must be considered when marketing into Korea.	—

IEC 60950-1:2005/Am1			
Clause	Requirement + Test	Result - Remark	Verdict
National Differences for Canada			P
Canada and the United States of America have adopted a single, bi-national standard, CAN/CSA C22.2 No. 60950-1/UL60950-1, Second Edition, which is based on IEC 60950-1, Second Edition. This bi-national standard should be consulted for further details on the national conditions and differences summarized below.			
SPECIAL NATIONAL CONDITIONS			
The following is a summary of the key national differences based on national regulatory requirements, such as the Canadian Electrical Code (CEC) Part and the Canadian Building Code, which are referenced in legislation and which form the basis for the rules and practices followed in electrical and building installations.			
1.1.1	All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2. Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	Considered.	P
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A	Class III equipment.	N/A
1.5.5	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the CEC/NEC.	No interconnecting cables.	N/A
	For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the CEC/NEC are required to have special construction features and identification markings.	No interconnecting cables.	N/A
1.7.1	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings.	Class III equipment.	N/A
	A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and if it is part of a range that extends into the Table 2 "Normal Operating Conditions." Likewise, a voltage rating shall not be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions."	Class III equipment.	N/A
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with CEC Part 1 or NEC shall be marked with the voltage rating and "Class 2" or equivalent. Marking shall be located adjacent to the terminals and shall be visible during wiring.	No connectors and field wiring terminal for external Class 2 or Class 3 circuits.	N/A

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2.5	Where a fuse is used to provide Class 2, Limited Power Source, or TNV current limiting, it shall not be operator-accessible unless it is not interchangeable.	No such fuse used.	N/A
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable. Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.	Class III equipment, no such parts.	N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains shall be in accordance with the NEC/CEC.	Class III equipment, no such parts.	N/A
3.2.1	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.	Class III equipment, no such parts.	N/A
3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment, is required to comply with special earthing, wiring, marking and installation instruction requirements.	The equipment is not for connection to a DC mains supply.	N/A
3.2.3	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.	The equipment is not permanently connected to the mains.	N/A
3.2.5	Power supply cords are required to be no longer than 4.5 m in length. Flexible power supply cords are required to be compatible with Tables 11 and 12 of the CEC and Article 400 of the NEC.	Class III equipment, no such parts.	N/A
3.2.9	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.	The equipment is not permanently connected to the mains.	N/A
3.3	Wiring terminals and associated spacings for field wiring connections shall comply with CSA C22.2 No. 0.	Class III equipment, no such parts.	N/A
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm ²).	Class III equipment, no such parts.	N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are required to be suitable for Canadian/US wire gauge sizes, rated 125 percent of the equipment rating, and be specially marked when specified (1.7.7).	Class III equipment, no such parts.	N/A

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3.4.2	Motor control devices are required for cord-connected equipment with a motor if the equipment is rated more than 12 A, or if the motor has a nominal voltage rating greater than 120 V, or is rated more than 1/3 hp (locked rotor current over 43 A).	No AC motors.	N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position.	No such switch used.	N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the computer room remote power-off circuit.	Battery capacity in the equipment is not exceed 750VA	N/A
	Battery system: When power-off is activated:		—
4.3.12	The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.	No flammable liquids within the equipment.	N/A
	Flammable liquid material: Flash point: Boiling point: Container material: Storage container size:		—
4.3.13.5	Equipment with lasers is required to meet the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations 21 CFR 1040, as applicable.	Considered.	P
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.	The equipment has no combustible area greater than 0.76 m ³ .	N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9 m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) are required to have a flame spread rating of 50 or less. For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.	The equipment has no combustible material greater than 0.9m ² or single dimension greater than 1.8m.	N/A
Annex H	Equipment that produces ionizing radiation is required to comply with the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations, 21 CFR 1020, as applicable.	The equipment does not produce ionizing radiation.	N/A
OTHER DIFFERENCES			
The following key national differences are based on requirements other than national regulatory requirements.			

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Clause	Requirement + Test	Result - Remark	Verdict
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements. These components include: attachment plugs, battery packs (rechargeable type, used with transportable equipment), cathode ray tubes, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), cord sets and power supply cords, direct plug-in equipment, enclosures (outdoor), flexible cords and cables, fuses (branch circuit), fuseholders, ground-fault current interrupters, industrial control equipment, insulating tape, interconnecting cables, lampholders, limit controls, printed wiring, protectors for communications circuits, receptacles, solid state controls, supplementary protectors, switches (including interlock switches), thermal cutoffs, thermostats, (multi-layer) transformer winding wire, transient voltage surge suppressors, tubing, wire connectors, and wire and cables.	Critical components are IEC certified. See list of critical components in main CB report (§1.5.1). There may be additional requirements for components in Canada.	P
1.6.1.2	A circuit for connection to the DC Mains Supply is classified as either a SELV Circuit, TNV-2 Circuit or Hazardous Voltage Circuit depending on the maximum operating voltage of the supply. This maximum operating voltage shall include consideration of the battery charging "float voltage" associated with the intended supply system, regardless of the marked power rating of the equipment.	No connect to DC power distribution system.	N/A
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 V _{peak} or 60 V _{d.c.} , the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.	No TNV circuitry.	N/A
2.3.2.1	In the event of a single fault between TNV and SELV circuits, SELV Circuits and accessible conductive parts comply with the North American limits of 2.2.3.	No TNV circuitry.	N/A
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) subjected to the additional limited short circuit test conditions specified, if required.	Class III equipment.	N/A
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more are provided with suitable enclosure to reduce the risk of injury due to the implosion of the CRT.	No CRTs in the equipment.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Projected area of opening : Minor dimension of projected area :		—
4.2.11	For equipment intended for mounting on racks and provided with slide/rails allowing the equipment to slide away from the rack for installation, service and maintenance, additional construction, performance and marking requirements are applicable to determine the adequacy of the slide/rails.	No such part.	N/A
4.3.2	Equipment with handles is required to comply with special loading tests.	No such part.	N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.	No TNV circuitry.	N/A
	Ringing ports provided: Simulation provided to: Measured total touch current :		—
5.3.7	Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are to be overloaded. During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test shall be repeated twice (three tests total) using new components as necessary.	Considered. No circuit is interrupted by the opening of a component.	P
6.4	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.	No TNV circuitry.	N/A
M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.	No TNV circuits.	N/A
Annex NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.	No TNV circuits.	N/A
Annex NAF	Document (paper) shredders likely to be used in a home or home office (Pluggable Equipment Type A plug configuration) are required to comply with additional requirements, including markings/instructions, protection against inadvertent reactivation of a safety interlock, disconnection from the mains supply (via provision of an isolating switch), and protection against operator access (accessibility determined via new accessibility probe & probe/wedge).	Not applicable.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Annex NAF			N/A
Household/home office Document shredders			
NAF1.7	Markings and Instructions	The equipment is not a shredder.	N/A
NAF 1.7.15	Symbols alerting the user to the following considerations are provided adjacent to the document feed opening. These symbols are explained in the instructions:		N/A
	Product is not intended for use by children (product is not a toy)		N/A
	Avoid touching the document feed opening with hands		N/A
	Avoid clothing touching the document feed opening		N/A
	Keep aerosol products away (applicable for product with brush motor only)		N/A
	The  (ISO 7000-0434) symbol to alert user to important operating, maintenance and/or servicing instructions and the explanation of above symbols		N/A
	Marking is permanent, comprehensible and easily discernible on the equipment.		N/A
NAF 2.8.3	Safety interlock can not be activated by articulated accessibility probe (NAF.1)		N/A
NAF 3.4	Isolation switch complying with 3.4.2 is provided to disconnect power to hazardous moving parts		N/A
	On/off marking is provided for two position switch...		N/A
	Off marking for multi-position switch		N/A
NAF 4.4	Protection against hazardous moving parts		N/A
	Accessibility probe (Fig NAF.1) is inserted without force into each opening and did not contact hazardous moving parts		N/A
	Operator accessible guards are removed and Accessibility wedge is inserted into each opening according without contacting mechanical hazards:		N/A
	Strip-cut (45N):		—
	Cross-cut (90N).....		—

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1.1	Equipment able to be installed in accordance with the National Electrical Code ANSI/NFPA 70	Considered.	P
1.1.1	Equipment able to be installed in accordance with ANSI/NFPA 75 and NEC Art. 645 unless intended for use outside of computer room and provided with such instructions.	Considered.	P
1.1.2	Equipment in wire-line communication facilities serving high-voltage electric power stations operating at greater than 1kV are excluded.	Class III equipment.	N/A
1.1.2	Equipment intended for outdoor use	Not outdoor use equipment.	N/A
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20 A.	Class III equipment.	N/A
1.5.1	All IEC standards for components identified in Annex P.1 replaced by the relevant requirements of UL component standards in Annex P.1.	Considered, see appended table 1.5.1 in the main test report.	P
1.5.1	All IEC standards for components identified in Annex P.2 alternatively satisfied by the relevant requirements of UL component standards	Considered, see appended table 1.5.1 in the main test report.	P
1.5.5	Interconnecting cables acceptable for the application regarding voltage, current, temperature, flammability, mechanical serviceability and the like.	No interconnecting cables.	N/A
1.5.5	For other than limited power and TNV circuits, the type of output circuit identified for output connector.	No interconnecting cables.	N/A
1.5.5	External cable assemblies that exceed 3.05 m in length to be types specified in the NEC	No interconnecting cables.	N/A
1.5.5	Detachable external interconnecting cables 3.05 m or less in length and provided with equipment marked to identify the responsible organization and the designation for the cable	No interconnecting cables.	N/A
1.5.5	Building wiring and cable for use in ducts, plenums and other air handling space subject to special requirements and excluded from scope.	No interconnecting cables.	N/A
1.5.5	Telephone line and extension cords and the like comply with UL 1863	No TNV circuitry.	N/A
1.6.1.2	Equipment intended for connection to a d.c. power (mains) distribution system subjected to special circuit classification requirements (e.g., TNV-2)	No connect to DC power distribution system.	N/A
1.6.1.2	Earthing of d.c. powered equipment provided	No connect to DC power distribution system.	N/A
1.7	Lamp replacement information indicated on lampholder in operator access area	No lamp provided.	N/A
1.7.1	Special marking format for equipment intended for use on a supply system with an earthed neutral and more than one phase conductor	Class III equipment.	N/A

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1.7.1	Equipment voltage rating not higher than rating of the plug except under special conditions	Class III equipment.	N/A
1.7.6	Fuse replacement marking for operator accessible fuses	No such fuse used.	N/A
1.7.7	Identification of terminal connection of the equipment earthing conductor	No TNV circuitry.	N/A
1.7.7	Connectors and field wiring terminals for external Class 2 or Class 3 circuits provided with marking indicating minimum Class of wiring to be used.	No connectors and field wiring terminal for external Class 2 or Class 3 circuits.	N/A
1.7.7	Marking located adjacent to terminals and visible during wiring	Class III equipment, no such terminal used.	N/A
2.1.1.1	Bare TNV conductive parts protected by a cover are exempt if instructions include directions for disconnection of TNV prior to removal of the cover	No TNV circuitry.	N/A
2.3.1.b	Other telecommunication signaling systems than described in 2.3.1(b) are subject to M.4.	No TNV circuitry.	N/A
2.3.1.b	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 Vp or 60 V d.c., the max. current limit through a resistor ≥ 2000 Ohm with loads disconnected is 7.1 mA peak or 30 mA d.c. under normal conditions	No TNV circuitry.	N/A
2.3.1.b	Limits for measurements across 5000 Ohm resistor in the event of a single fault are replaced after 200 ms with the limits of M.3.1.4.	No TNV circuitry.	N/A
2.3.2.1	For a single fault, the limits of 2.2.3 apply to SELV circuits and accessible conductive parts.	No TNV circuitry.	N/A
2.3.2.4	Enamel coating on signal transformer winding wire allowed as an alternative to Basic insulation in specific telecommunication applications if subject to special construction requirements and testing	No TNV circuitry.	N/A
2.5	Overcurrent protection device required for Class 2 and Class 3 limiting according to the NEC, or for a Limited Power Source, not interchangeable with devices of higher ratings if operator replaceable	No such component provided.	N/A
2.6	Equipment having receptacles for output a.c. power connectors generated from an internal separately derived source have the earthed (grounded) circuit conductor suitably bonded to earth.	Class III equipment.	N/A
2.6.3.3	For Pluggable Equipment Type A, if a) b) or c) are not applicable, the current rating of the circuit is taken as 20 A	Class III equipment.	N/A
2.6.3.4	Capacity of connection between earthing terminal and parts required to be earthed subject to special conditions based on the current rating of the circuit.	Class III equipment.	N/A
2.6.4.1	Field wiring terminals for earthing conductors	Class III equipment.	N/A

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	suitable for wire sizes (gauge) used in US		
2.7.1	Data for selection of special external branch circuit overcurrent devices marked on the equipment	No such part.	N/A
2.7.1	Standard supply outlets protected by overcurrent device in accordance with the NEC	No such part.	N/A
2.7.1	Overcurrent protection for individual transformers that distribute power to other units over branch circuit wiring	No such part.	N/A
2.7.1	Additional requirements for overcurrent protection apply to equipment provided with panelboards	No such part.	N/A
2.7.1	Non-motor-operated equipment requiring special overcurrent protective device marked with device rating.	No such part.	N/A
2.10.5.12	Multi-layer winding wire subject to UL component wire requirements in addition to 2.10.5.12 and Annex U.	No such part.	N/A
3.1.1	Permissible combinations of internal wiring/external cable sizes for overcurrent & short circuit protection	Considered.	P
3.1.1	All interconnecting cables protected against overcurrent and short circuit.	No such interconnecting cables.	N/A
3.2	Wiring methods permit connection of equipment to primary power supply in accordance with the NEC	The equipment is provided with an appliance inlet, no such parts.	N/A
3.2.1	Permitted use for flexible cords and plugs.	Class III equipment.	N/A
3.2.1	Flexible cords provided with attachment plug rated 125% of equipment current rating.	Class III equipment.	N/A
3.2.1	Any Class II equipment provided with 15 or 20 A standard supply outlets, Edison-base lampholders or single pole disconnect device provided with a polarized type attachment plug.	Class III equipment.	N/A
3.2.1.2	Equipment intended for connection to DC mains supply power systems complies with special wiring requirements	The equipment is not for connection to a DC mains supply.	N/A
3.2.1.2	Equipment with one pole of the DC mains supply connected to both the equipment mains input terminal and the main protective earthing terminal provided with special instructions and construction provisions for earthing	The equipment is not for connection to a DC mains supply.	N/A
3.2.1.2	Equipment with means for connecting supply to earthing electrode conductor has no switches or protective devices between supply connection and earthing electrode connection.	The equipment is not for connection to a DC. mains supply.	N/A
3.2.1.2	Markings and instructions for equipment with provisions to connect earthed conductor of a DC supply circuit to the equipment earthing conductor	The equipment is not for connection to a DC. mains supply.	N/A

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3.2.1.2	Special markings and instructions for equipment with earthed conductor of a DC supply circuit connected to the equipment earthing conductor	The equipment is not for connection to a DC. mains supply.	N/A
3.2.1.2	Terminals and leads provided for permanent connection of DC powered equipment to supply marked to indicate polarity if reverse polarity may result in a hazard.	The equipment is not for connection to a DC. mains supply.	N/A
3.2.3	Permanently connected equipment has provision for connecting and securing a field wiring system (i.e. conduit, or leads etc.) per the NEC	Not permanently connected equipment.	N/A
3.2.3	Permanently connected equipment may have terminals or leads not smaller than No. 18 AWG (0.82 mm ²) and not less than 150 mm in length for connection of field installed wiring.	Not permanently connected equipment.	N/A
3.2.3	If supply wires exceed 60 °C, marking indicates use of 75 °C or 90 °C wiring for supply connection as appropriate.	Not permanently connected equipment.	N/A
3.2.3	Equipment compatible with suitable trade sizes of conduits and cables.	Not permanently connected equipment.	N/A
3.2.5	Length of power supply cord limited to between 1.5 and 4.5 m unless shorter length used when intended for a special installation.	Class III equipment, no such part.	N/A
3.2.5	Conductors in power supply cords sized per NEC	Class III equipment, no such part.	N/A
3.2.5	Power supply cords and cord sets incorporate flexible cords suitable for the particular application.	Class III equipment, no such part.	N/A
3.2.6	Strain relief provided for non-detachable interconnecting cables not supplied by a limited power source.	Class III equipment, no such part.	N/A
3.2.9	Adequate wire bending space and volume of field wiring compartment required to properly make the field connections.	Class III equipment, no such part.	N/A
3.2.9	Equipment solely for installation in Restricted Access Locations using low voltage d.c. systems may not need provision for connecting and securing a field wiring system when wiring is protected from abuse.	Equipment not intended for installation in RAL.	N/A
3.3	Field wiring terminals provided for interconnection of units for other than LPS or Class 2 circuits also comply with 3.3.	No such field wiring.	N/A
3.3	Interconnection of units by LPS or Class 2 conductors may have field wiring connectors other than specified in 3.3 if wiring is reliably separated	No such field wiring.	N/A
3.3.1	Terminals for the connection of neutral conductor identified by a distinctive white marking or other equally effective means	Class III equipment, no such part.	N/A

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3.3.3	Wire binding screw terminal permitted for connection of No. 10 AWG (5.3 mm ²) or smaller conductor if provided with upturned lugs, cupped washer or equivalent retention.	Class III equipment, no such part.	N/A
3.3.4	Terminals accept US wire sizes (gauge)	Class III equipment, no such part.	N/A
3.3.4	Terminals accept current-carrying conductors rated 125% of the equipment current rating.	Class III equipment, no such part.	N/A
3.3.6	Field wiring terminals marked to indicate the material(s) of the conductor for the terminals used	Class III equipment, no such part.	N/A
3.3.6	Aluminum conductors not permitted for connection to terminal for equipment earthing conductor	Class III equipment, no such part.	N/A
3.3.6	Field wiring connections made through the use of suitable pressure connectors (including set screw type), solder lugs or splices to flexible leads.	Class III equipment, no such part.	N/A
3.4.2	Separate motor control device(s) required for cord-connected equipment rated more than 12 A, or with motor rated more than 1/3 hp or more than 120 V.	No AC motors in the equipment.	N/A
3.4.8	Vertically mounted disconnect devices oriented so up position of handle is "on".	No such switch used.	N/A
3.4.11	For computer-room applications, equipment with battery systems capable of supplying 750 VA for 5 minutes provided with battery disconnect means	Battery capacity in the equipment is not exceed 750VA	N/A
4.2.8.1	Special opening restrictions for enclosures around CRTs with face dimension of 160 mm or more.	No CRTs in the equipment.	N/A
4.2.9	Compartment housing high-pressure lamp marked to indicate risk of explosion.	No high-pressure lamp provided.	N/A
4.2.11	For equipment mounted on racks and provided with slide/rails allowing the equipment to slide away from the rack for installation and maintenance, additional construction, performance and marking requirements are applicable to determine the adequacy of the slide/rails	No such part.	N/A
4.3.2	Loading test for equipment with handle(s) used to support more than 9 kg	No such part.	N/A
4.3.6	In addition to the IEC requirements, Direct Plug-in Equipment complies with UL 1310	Class III equipment, no such part.	N/A
4.3.12	The max. quantity of flammable liquid stored in equipment per ANSI/NFPA 30 (Table NAE.6)	No flammable liquids within the equipment.	N/A
4.3.12	Equipment using replenishable liquids marked to indicate type of liquid to be used.	No flammable liquids within the equipment.	N/A
4.3.13.2	Equipment that produces x-radiation and does not comply with 4.3.12 under all conditions of servicing marked to indicate the presence of radiation	The equipment does not generate ionizing radiation.	P

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4.3.13.5	Requirements contained in the applicable national codes apply to lasers (21 CFR 1040).	Considered.	P
4.7	Automated information storage equipment intended to contain more than 0.76 m ³ of combustible media requires provision for automatic sprinklers or a gaseous agent extinguishing system.	The equipment has no combustible area greater than 0.76 m ³ .	N/A
4.7.3.1	Equipment for use in environmental air space other than ducts or plenums provided with metal enclosure or with non-metallic enclosure having adequate fire-resistance and low smoke producing characteristics (according to UL 2043). Equipment for installation in space used for environmental air, described in Sec. 300-22(c) of the NEC, provided with instructions indicating suitability for installation	Equipment not used in environmental air space.	N/A
4.7.3.1	Flame spread rating for external surface of combustible material with exposed area greater than 0.9 m ² or a single dimension greater than 1.8 m; 50 or less for computer room applications or 200 or less for other applications.	The equipment has no combustible material greater than 0.9m ² or single dimension greater than 1.8m.	N/A
4.7.3.4	Wire marked "VW-1" or "FT-1" considered equivalent.	Considered.	P
5.1.8.2	Special earthing provisions and instructions for equipment with high touch current due to telecommunication network connections.	Class III equipment, no earthing terminal.	N/A
5.1.8.3	Touch current due to ringing voltage for equipment containing telecommunication network leads.	No TNV circuitry.	N/A
5.3.7	Overloading of SELV connectors and printed wiring board receptacles accessible to the operator.	Considered.	P
5.3.7	Tests interrupted by opening of a component repeated two additional times.	No tests interrupted by opening of a component	N/A
5.3.9.1	Test interrupted by opening of wire or trace subject to certain conditions.	No test interrupted by opening of wire or trace.	N/A
6	Specialized instructions for telephones that may be connected to a telecommunications network	No TNV circuitry.	N/A
6	Marking identifying function of telecommunication type connectors not used for connection to a telecommunication network.	No TNV circuitry.	N/A
6.3	Equipment remotely powered over telecommunication wiring systems provided with specialized markings adjacent to the connection.	No TNV circuitry.	N/A
6.3	Overcurrent protection incorporated into equipment to provide power over telecommunication wiring system not interchangeable with devices of higher ratings if operator replaceable.	No TNV circuitry.	N/A
6.4	Additional requirements for equipment connected to a telecommunication network using cable subject to	No TNV circuitry.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	overvoltage from power line failures		
6.4	Where 26 AWG line cord required by Fig. 6C, either the cord is provided with the equipment or described in the safety instructions.	No TNV circuitry.	N/A
7	Equipment associated with the cable distribution system may need to be subjected to applicable parts of Chapter 8 of the NEC.	Not cable distribution systems.	N/A
H	Ionizing radiation measurements made under single fault conditions according to 21 CFR 1020	The equipment does not produce ionizing radiation.	N/A
M.2	Continuous ringing signals evaluated to Method A subjected to special accessibility considerations.	No applicable.	N/A
M.4	Special requirements for message waiting and similar telecommunications signals.	Not applicable.	N/A
NAC	Equipment for use with a generic secondary protector marked with suitable instructions.	Not applicable.	N/A
NAC	Equipment marked with suitable instructions if for use with a specific primary or secondary protector	Not applicable.	N/A
NAD	Acoustic pressure from an ear piece for short and long duration disturbances	Not applicable.	N/A
NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements	Not applicable.	N/A

IEC 60950-1:2005/Am1			
Clause	Requirement + Test	Result - Remark	Verdict

NAF	Household/Home Office Document Shredders		N/A
NAF.1.7	Markings and instructions alert the user to key safety considerations related to use of shredders, including not intended to be used by children, avoid touching document feed opening, avoid clothes and hair entanglement, and avoid aerosol products.	The equipment is not a shredder.	N/A
NAF.2.8.3	Safety interlock cannot be inadvertently activated by the articulated accessibility probe		N/A
NAF.3.4	Provided with an isolating switch complying with 3.4.2, including 3 mm contact gap, with appropriate markings associated with the switch.		N/A
NAF.4.4	Hazardous moving parts are not accessible, as determined using the articulated accessibility probe and the accessibility probe/wedge		N/A

IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT: AUSTRALIA / NEW ZEALAND NATIONAL DIFFERENCES
Test results according to Online CB BULLETIN (Last modified date of 2011-05-06)

Clause	Requirements – Test	Result – Remark	Verdict
ZZ.1 Introduction			
This Appendix sets out variations and additional requirements to cover issues which have not been addressed by the International Standard. These variations indicate national variations for purposes of the IECEE CB System and will be published in the IECEE CB Bulletin.			
ZZ.2 Variations			
The variations are as follows:			
1.2	Insert the following between 'person, service' and 'range, rated frequency': POTENTIAL IGNITION SOURCE 1.2.12	Considered.	P
1.2.12.20 1	Insert a new Clause 1.2.12.201 after Clause 1.2.12.15 as follows: 1.2.12.201 POTENTIAL IGNITION SOURCE Possible fault which can start a fire if the open-circuit voltage measured across an interruption or faulty contact exceeds a value of 50 V (peak) a.c. or d.c. and the product of the peak value of this voltage and the measured r.m.s. current under normal operating conditions exceeds 15 VA. Such a faulty contact or interruption in an electrical connection includes those which may occur in CONDUCTIVE PATTERNS on PRINTED BOARDS . NOTE 201 An electronic protection circuit may be used to prevent such a fault from becoming a POTENTIAL IGNITION SOURCE . NOTE 202 This definition is from AS/NZS 60065:2003.	Considered.	P
1.5.1	1. Add the following to the end of first paragraph: 'or the relevant Australian/New Zealand Standard'. 2. In NOTE 1, add the following after the word 'standard': 'or an Australian/New Zealand Standard'	Considered.	P
1.5.2	Add the following to the end of first and third dash items: 'or the relevant Australian/New Zealand Standard'.	Considered.	P

IEC 60950-1:2005																				
Clause	Requirement + Test	Result - Remark	Verdict																	
3.2.5.1	Modify Table 3B as follows: 1. Delete the first four rows and replace with the following: <table><tr><th rowspan="2">RATED CURRENT OF EQUIPMENT A</th><th colspan="2">Minimum conductor sizes</th></tr><tr><th>Nominal cross-sectional area mm²</th><th>AWG or kcmil [cross-sectional area in mm²] see note 2</th></tr><tr><td>Over 0.2 up to and including 3</td><td>0,5 ¹⁾</td><td>18 [0,8]</td></tr><tr><td>Over 3 up to and including 7.5</td><td>0,75</td><td>16 [1,3]</td></tr><tr><td>Over 7.5 up to and including 10</td><td>(0,75)²⁾</td><td>16 [1,3]</td></tr><tr><td>Over 10 up to and including 16</td><td>(1,0)³⁾</td><td>14 [2]</td></tr></table> Replace footnote 1) with the following: ¹⁾ This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug does not exceed 2 m (0.5 mm² three-core supply flexible cords are not permitted; see AS/NZS 3191). 2. Delete Note 1. 3. Delete Footnote a and replace with the following: ^a This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug does not exceed 2 m (0,5 mm2 three-core supply flexible cords are not permitted; see AS/NZS 3191).	RATED CURRENT OF EQUIPMENT A	Minimum conductor sizes		Nominal cross-sectional area mm ²	AWG or kcmil [cross-sectional area in mm ²] see note 2	Over 0.2 up to and including 3	0,5 ¹⁾	18 [0,8]	Over 3 up to and including 7.5	0,75	16 [1,3]	Over 7.5 up to and including 10	(0,75) ²⁾	16 [1,3]	Over 10 up to and including 16	(1,0) ³⁾	14 [2]	The equipment is regarded as Class III, not connect to the mains	N/A
RATED CURRENT OF EQUIPMENT A	Minimum conductor sizes																			
	Nominal cross-sectional area mm ²	AWG or kcmil [cross-sectional area in mm ²] see note 2																		
Over 0.2 up to and including 3	0,5 ¹⁾	18 [0,8]																		
Over 3 up to and including 7.5	0,75	16 [1,3]																		
Over 7.5 up to and including 10	(0,75) ²⁾	16 [1,3]																		
Over 10 up to and including 16	(1,0) ³⁾	14 [2]																		
4.1.201	Insert a new Clause 4.1.201 after Clause 4.1 as follows: 4.1.201 Display devices used for television purposes Display devices which may be used for television purposes, with a mass of 7 kg or more, shall comply with the requirements for stability and mechanical hazards, including the additional stability requirements for television receivers, specified in AS/NZS 60065.	No such parts.	N/A																	
4.3.6	Delete the third paragraph and Replace with the following: Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112, shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.	The equipment is regarded as Class III, not connect to the mains.	N/A																	
4.3.13.5	Add the following to the end of first paragraph: ‘or AS/NZS 2211.1’.	Considered	P																	
4.7	Add the following paragraph to the end of the clause: For alternative tests refer to Clause 4.7.201.	Refer to below.	P																	

IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.201	Insert a new Clause 4.7.201 after Clause 4.7.3.6 as follows: 4.7.201 Resistance to fire – Alternative tests 4.7.201.1 General Parts of non-metallic material shall be resistant to ignition and spread of fire. This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames originating from inside the apparatus, or the following: (a) Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1 mm in width regardless of length. (b) The following parts which would contribute negligible fuel to a fire: - small mechanical parts, the mass of which does not exceed 4g, such as mounting parts, gears, cams, belts and bearings; - small electrical components, such as capacitors with a volume not exceeding 1,750mm³, integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category V-1, or better, according to AS/NZS 60695.11.10. NOTE In considering how to minimize propagation of fire and what 'small parts' are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating fire from one part to another. Compliance shall be checked by the tests of 4.7.201.2, 4.7.201.3, 4.7.201.4 and 4.7.201.5. For the base material of printed boards, compliance shall be checked by the test of 4.7.201.5. The tests shall be carried out on parts of non-metallic material which have been removed from the apparatus. When the glow-wire test is carried out, the parts shall be placed in the same orientation as they would be in normal use. These tests are not carried out on internal wiring. 4.7.201.2 Testing of non-metallic materials Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550°C.	All materials have suitable flame class, no testing required.	P

IEC 60950-1:2005													
Clause	Requirement + Test	Result - Remark	Verdict										
4.7.201	4.7.201.3 Testing of insulating materials Parts of insulating material supporting POTENTIAL IGNITION SOURCES shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 750°C The test shall also be carried out on other parts of insulating material which are within a distance of 3 mm of the connection. NOTE: Contacts in components such as switch contacts are considered to be connections. For parts which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame test. However, parts shielded by a barrier which meets the needle-flame test shall not be tested. The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications: <table><tr><th>Clause of AS/NZS 60695.11.5</th><th>Change</th></tr><tr><td>9 Test procedure</td><td></td></tr><tr><td>9.2 Application of needle flame</td><td> Replace the first paragraph with: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1. If possible the flame shall be applied at least 10 mm from a corner Replace the second paragraph with: The duration of application of the test flame shall be 30 s ± 1 s. </td></tr><tr><td>9.3 Number of test specimens</td><td> Replace with: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test. </td></tr><tr><td>11 Evaluation of test results</td><td> Replace with: The duration of burning (t_b) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s. </td></tr></table> The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to AS/NZS 60695.11.10, provided that the sample tested was not thicker than the relevant part.	Clause of AS/NZS 60695.11.5	Change	9 Test procedure		9.2 Application of needle flame	Replace the first paragraph with: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1. If possible the flame shall be applied at least 10 mm from a corner Replace the second paragraph with: The duration of application of the test flame shall be 30 s ± 1 s.	9.3 Number of test specimens	Replace with: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test.	11 Evaluation of test results	Replace with: The duration of burning (t_b) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.	All materials have suitable flame class, no testing required.	P
Clause of AS/NZS 60695.11.5	Change												
9 Test procedure													
9.2 Application of needle flame	Replace the first paragraph with: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1. If possible the flame shall be applied at least 10 mm from a corner Replace the second paragraph with: The duration of application of the test flame shall be 30 s ± 1 s.												
9.3 Number of test specimens	Replace with: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test.												
11 Evaluation of test results	Replace with: The duration of burning (t_b) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.												

IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.201	4.7.201.4 Testing in the event of non-extinguishing material If parts, other than enclosures, do not withstand the glow wire tests of 4.7.201.3, by failure to extinguish within 30 s after the removal of the glowwire tip, the needle-flame test detailed in 4.7.201.3 shall be made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of 4.7.201.3. Parts shielded by a separate barrier which meets the needle-flame test need not be tested. NOTE 1 If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing. NOTE 2 If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing. NOTE 3 Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with, or in close proximity to, connections.	All materials have suitable flame class, no testing required.	P

IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.201	4.7.201.5 Testing of printed boards The base material of printed boards shall be subjected to the needle-flame test of Clause 4.7.201.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a POTENTIAL IGNITION SOURCE. The test is not carried out if the – - Printed board does not carry any POTENTIAL IGNITION SOURCE; - Base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category V-1 or better according to AS/NZS 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category V-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings completely; or - Base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category V-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely. Compliance shall be determined using the smallest thickness of the material. NOTE: Available apparent power is the maximum apparent power which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximise the apparent power from more than 2 min when the circuit supplied is disconnected.	All materials have suitable flame class, no testing required.	P
6.2.2	For Australia only, <i>delete</i> the first paragraph and Note, and replace with the following: In Australia only, compliance with 6.2.2 shall be checked by the tests of both 6.2.2.1 and 6.2.2.2.	No TNV circuits in the equipment.	N/A

IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
6.2.2.1	For Australia only, <i>delete</i> the first paragraph including the Notes, and <i>replace</i> with the following: In Australia only, the electrical separation is subjected to 10 impulses of alternating polarity, using the impulse test generator reference 1 of Table N.1. The interval between successive impulses is 60 s and the initial voltage, U_c, is: (i) for 6.2.1 a): 7.0 kV for hand-held telephones and for headsets and 2.5 kV for other equipment; and (ii) for 6.2.1 b) and 6.2.1 c): 1.5 kV. NOTE 201 The 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines. NOTE 202 The value of 2.5 kV for 6.2.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.	No TNV circuits in the equipment.	N/A
6.2.2.2	For Australia only, <i>delete</i> the second paragraph including the Note, and <i>replace</i> with the following: In Australia only, the a.c. test voltage is: (i) for 6.2.1 a): 3 kV; and (ii) for 6.2.1 b) and 6.2.1 c): 1.5 kV. NOTE 201 Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 202 The 3 kV and 1.5 kV values have been determined considering the low frequency induced voltages from the power supply distribution system.	No TNV circuits in the equipment.	N/A
7.3	<i>Add</i> the following before the first paragraph: Equipment providing functions that fall only within the scope of AS/NZS 60065 and that incorporate a PSTN interface, are not required to comply with this Clause where the only ports provided on the equipment, in addition to a coaxial cable connection and a PSTN interface, are audio or video ports and analogue or data ports not intended to be used for telecommunications purposes.	No such parts.	N/A

IEC 60950-1:2005			
Clause	Requirement + Test	Result - Remark	Verdict
Annex P	Add the following Normative References: AS/NZS 3191, Electric flexible cords AS/NZS 3112, Approval and test specification—Plugs and socket-outlets	Considered.	P
Index	1. Insert the following between 'asbestos, not to be used as insulation' and 'attitude see orientation': AS/NZS 2211.1.....4.3.13.5 AS/NZS 3112.....4.3.6 AS/NZS 3191..... 3.2.5.1 (Table 3B) AS/NZS 60064.....4.1.201 AS/NZS 60695.2.11..... 4.7.201.2, 4.7.201.3 AS/NZS 60695.11.10..... 4.7.201.1, 4.7.201.5 AS/NZS 60695.11.5.....4.7.201.3 2. Insert the following between 'positive temperature coefficient (PTC) device' and 'powder': potential ignition source 1.2.201, 4.7.201.3, 4.7.201.5	Considered.	P

ATTACHMENT: SINGAPORE DIFFERENCES to IEC 60950-1 (ed.1)

No	Item	Requirement	Result - Remark	Verdict
The following is the national differences in accordance with safety authority website www.safety.org.sg/ , ref. Singapore Consumer Protection (Safety Requirements) - Information booklet - chapter 7 (page 23 - 26). Based on information by Singapore NCB – PSB Corp.				
7 SAFETY AUTHORITY'S REQUIREMENTS The Safety Authority monitors the safety of the controlled goods sold in Singapore by investigating all complaints, incidents and accidents reported to the authority. Experiences gained are translated into the Safety Authority's Requirements. These requirements are to be fulfilled in addition to the applicable safety standards.				
Applicable to all electrical products				
2	All appliances	All appliances must be tested to 230 VAC.	Class III equipment.	N/A
3	Voltage selector (voltage mis-match test)	Appliance fitted with voltage selector shall be tested as follows: Connect appliance to 230 VAC mains with voltage selector switch to settings not suitable for operation at 230 VAC.	Class III equipment, no such parts.	N/A
4	Tropical condition test	All appliances (with tropical test requirements in applicable Standards) shall comply with the tropical condition test as stated in the relevant IEC Standards.	Class III equipment, no TNV circuits.	N/A
5	Class I appliances (3-pin mains plug)	All Class I appliances must be fitted with 3-pin mains plugs complied with SS 145/SS 472 that are registered with the Safety Authority.	Class III equipment.	N/A
6	Class II appliances (mains plug)	a) All Class II appliances must be fitted with 2-pin mains plug (Appendix W) complied with IEC 83: 1975 (Standard C5, Version II) or EN 50075: 1991. b) Class II appliances that are fitted with 3-pin mains plugs must use plugs that are complied with SS 145 and registered with the Safety Authority.	Class III equipment.	N/A
7	Appliances rated ≥ 3 kW or connected to fixed wiring	Electric appliance ≥ 3 kW must be connected to fixed wiring. All connection to fixed wiring must be in accordance with Code of Practice CP5.	Appliances rated less than 3 kW and not connected to fixed wiring.	N/A

No	Item	Requirement	Result - Remark	Verdict
8	Detachable power cord set (consists of mains plug, mains cord and appliance connector)	Detachable power cord set must be listed in the test report critical component list.	Class III equipment.	N/A
9	Circuit diagrams	Circuit diagrams must be indicated with component's values for products tested to IEC 60065 and IEC 60950.	Must be considered when marketing in Singapore.	—
10	Circuit diagrams of electronic modules in electrical appliances	Circuit diagrams of the electronic modules in the electrical appliances must be provided.	Must be considered when marketing in Singapore.	—
11	Controlled goods likely to be treated as toy by children	Controlled goods, having an enclosure, which is shaped and decorated so that it is likely to be treated as a toy by children, shall not be accepted for certification and registration.	The shape and function are not considered as toy.	N/A
Applicable to AC adaptor				
13	3-pin AC adaptor	Test report showing that the 3-pin complied with sub-clauses 12.1 & 12.3 of SS 246 must be submitted.	The equipment is not AC Adaptor.	N/A
14	2-pin AC adaptor	The 2-pin (Appendix W) shall comply with IEC 83: 1975 (Standard C5, Version II) or EN 50075.	The equipment is not AC Adaptor.	N/A
15	Detachable power supply cord set not supplied by Registered Supplier	Registered Supplier who is not supplying the detachable power supply cord set together with the AC Adaptor must provide written instruction to its customer on the type of approved detachable power cord set to use.	The equipment is not AC Adaptor.	N/A
Applicable to computer products				
16	CD/DVD ROM (used in personal computer)	Test certificate showing that CD/DVD ROM has complied with IEC 825 must be provided.	Considered.	P
17	Modem Card (used in personal computer)	Modem card incorporated in the personal computer must be tested at set level (sub-clauses 5.1 & 6 of IEC 60950) or at component level.	Not such parts.	N/A

No	Item	Requirement	Result - Remark	Verdict
Applicable to plasma/LCD display monitor				
35	Plasma/LCD display monitor with TV tuner	Plasma/LCD display monitor tested to IEC 60950 would require additional test to clauses 9 (related to antenna only), 10.1, 10.2, 10.3 and 12.5 of IEC 60065.	No TV tuner provided.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES Information technology equipment – Safety – Part 1: General requirements			
Differences according to: EN 60950-1:2006/A11:2009/A1:2010/A12:2011			
Attachment Form No.: EU_GD_IEC60950_1C_II			
Attachment Originator: SGS Fimko Ltd			
Master Attachment: Date 2011-08			
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EN 60950-1:2006/A11:2009/A1:2010/A12:2011 – CENELEC COMMON MODIFICATIONS

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
Contents	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions		P
General	Delete all the “country” notes in the reference document (IEC 60950-1:2005) according to the following list: 1.4.8 Note 2 1.5.1 Note 2 & 3 1.5.7.1 Note 1.5.8 Note 2 1.5.9.4 Note 1.7.2.1 Note 4, 5 & 6 2.2.3 Note 2.2.4 Note 2.3.2 Note 2.3.2.1 Note 2 2.3.4 Note 2 2.6.3.3 Note 2 & 3 2.7.1 Note 2.10.3.2 Note 2 2.10.5.13 Note 3 3.2.1.1 Note 3.2.4 Note 3. 2.5.1 Note 2 4.3.6 Note 1 & 2 4.7 Note 4 4.7.2.2 Note 4.7.3.1 Note 2 5.1.7.1 Note 3 & 4 5.3.7 Note 1 6 Note 2 & 5 6.1.2.1 Note 2 6.1.2.2 Note 6.2.2 Note 6.2.2.1 Note 2 6.2.2.2 Note 7.1 Note 3 7.2 Note 7.3 Note 1 & 2 G.2.1 Note 2 Annex H Note 2		P
General (A1:2010)	Delete all the “country” notes in the reference document (IEC 60950-1:2005/A1:2010) according to the following list: 1.5.7.1 Note 6.1.2.1 Note 2 6.2.2.1 Note 2 EE.3 Note		P

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.3.Z1	Add the following subclause: 1.3.Z1 Exposure to excessive sound pressure The apparatus shall be so designed and constructed as to present no danger when used for its intended purpose, either in normal operating conditions or under fault conditions, particularly providing protection against exposure to excessive sound pressures from headphones or earphones. NOTE Z1 A new method of measurement is described in EN 50332-1, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for "one package equipment", and in EN 50332-2, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Guidelines to associate sets with headphones coming from different manufacturers.	Not applicable. (However the measurement of sound pressure level is 103mV)	N/A
(A12:2011)	In EN 60950-1:2006/A12:2011 Delete the addition of 1.3.Z1 / EN 60950-1:2006 Delete the definition 1.2.3.Z1 / EN 60950-1:2006 /A1:2010	Deleted.	N/A
1.5.1	Add the following NOTE: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC	Considered.	P
1.7.2.1 (A1:2010)	In addition, for a PORTABLE SOUND SYSTEM, the instructions shall include a warning that excessive sound pressure from earphones and headphones can cause hearing loss.	Not a PORTABLE SOUND SYSTEM.	N/A
1.7.2.1 (A12:2011)	In EN 60950-1:2006/A12:2011 Delete NOTE Z1 and the addition for Portable Sound System. Add the following clause and annex to the existing standard and amendments.	Not a PORTABLE SOUND SYSTEM.	N/A
	Zx Protection against excessive sound pressure from personal music players		

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.1 General This sub-clause specifies requirements for protection against excessive sound pressure from personal music players that are closely coupled to the ear. It also specifies requirements for earphones and headphones intended for use with personal music players. A personal music player is a portable equipment for personal use, that: – is designed to allow the user to listen to recorded or broadcast sound or video; and – primarily uses headphones or earphones that can be worn in or on or around the ears; and – allows the user to walk around while in use. NOTE 1 Examples are hand-held or body-worn portable CD players, MP3 audio players, mobile phones with MP3 type features, PDA's or similar equipment. A personal music player and earphones or headphones intended to be used with personal music players shall comply with the requirements of this sub-clause. The requirements in this sub-clause are valid for music or video mode only. The requirements do not apply: – while the personal music player is connected to an external amplifier; or – while the headphones or earphones are not used. NOTE 2 An external amplifier is an amplifier which is not part of the personal music player or the listening device, but which is intended to play the music as a standalone music player. The requirements do not apply to: – hearing aid equipment and professional equipment; NOTE 3 Professional equipment is equipment sold through special sales channels. All products sold through normal electronics stores are considered not to be professional equipment.	Not a personal music player.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	– analogue personal music players (personal music players without any kind of digital processing of the sound signal) that are brought to the market before the end of 2015. NOTE 4 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies. For equipment which is clearly designed or intended for use by young children, the limits of EN 71-1 apply.	Not a personal music player.	N/A
	Zx.2 Equipment requirements No safety provision is required for equipment that complies with the following: – equipment provided as a package (personal music player with its listening device), where the acoustic output $L_{Aeq,T}$ is ≤ 85 dBA measured while playing the fixed “programme simulation noise” as described in EN 50332-1; and – a personal music player provided with an analogue electrical output socket for a listening device, where the electrical output is ≤ 27 mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” as described in EN 50332-1. NOTE 1 Wherever the term acoustic output is used in this clause, the 30 s A-weighted equivalent sound pressure level $L_{Aeq,T}$ is meant. See also Zx.5 and Annex Zx. All other equipment shall: a) protect the user from unintentional acoustic outputs exceeding those mentioned above; and b) have a standard acoustic output level not exceeding those mentioned above, and automatically return to an output level not exceeding those mentioned above when the power is switched off; and	Not a personal music player.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	c) provide a means to actively inform the user of the increased sound pressure when the equipment is operated with an acoustic output exceeding those mentioned above. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an acoustic output exceeding those mentioned above. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time; and NOTE 2 Examples of means include visual or audible signals. Action from the user is always required. NOTE 3 The 20 h listening time is the accumulative listening time, independent how often and how long the personal music player has been switched off. d) have a warning as specified in Zx.3; and e) not exceed the following: 1) equipment provided as a package (player with its listening device), the acoustic output shall be ≤ 100 dBA measured while playing the fixed "programme simulation noise" described in EN 50332-1; and 2) a personal music player provided with an analogue electrical output socket for a listening device, the electrical output shall be ≤ 150 mV measured as described in EN 50332-2, while playing the fixed "programme simulation noise" described in EN 50332-1. For music where the average sound pressure (long term $L_{Aeq,T}$) measured over the duration of the song is lower than the average produced by the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. In this case T becomes the duration of the song. NOTE 4 Classical music typically has an average sound pressure (long term $L_{Aeq,T}$) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the song and compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. For example, if the player is set with the programme simulation noise to 85 dBA, but the average music level of the song is only 65 dBA, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dBA.	Not a personal music player.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.3 Warning The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following: – the symbol of Figure 1 with a minimum height of 5 mm; and – the following wording, or similar: “To prevent possible hearing damage, do not listen at high volume levels for long periods.”  Figure 1 – Warning label (IEC 60417-6044) Alternatively, the entire warning may be given through the equipment display during use, when the user is asked to acknowledge activation of the higher level.	Not a personal music player.	N/A
	Zx.4 Requirements for listening devices (headphones and earphones)		N/A
	Zx.4.1 Wired listening devices with analogue input With 94 dBA sound pressure output $L_{Aeq,T}$, the input voltage of the fixed “programme simulation noise” described in EN 50332-2 shall be ≥ 75 mV. This requirement is applicable in any mode where the headphones can operate (active or passive), including any available setting (for example built-in volume level control). NOTE The values of 94 dBA – 75 mV correspond with 85dBA – 27 mV and 100 dBA – 150 mV.	Not a personal music player.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Zx.4.2 Wired listening devices with digital input With any playing device playing the fixed “programme simulation noise” described in EN 50332-1 (and respecting the digital interface standards, where a digital interface standard exists that specifies the equivalent acoustic level), the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA. This requirement is applicable in any mode where the headphones can operate, including any available setting (for example built-in volume level control, additional sound feature like equalization, etc.). NOTE An example of a wired listening device with digital input is a USB headphone.	Not a personal music player.	N/A
	Zx.4.3 Wireless listening devices In wireless mode: – with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and – respecting the wireless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and – with volume and sound settings in the listening device (for example built-in volume level control, additional sound feature like equalization, etc.) set to the combination of positions that maximize the measured acoustic output for the abovementioned programme simulation noise, the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA. NOTE An example of a wireless listening device is a Bluetooth headphone.	Not a personal music player.	N/A
	Zx.5 Measurement methods Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable. Unless stated otherwise, the time interval T shall be 30 s. NOTE Test method for wireless equipment provided without listening device should be defined.	Not a personal music player.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
2.7.1	Replace the subclause as follows: Basic requirements To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation; c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.	Class III equipment, not direct connected to the AC mains.	N/A
2.7.2	This subclause has been declared 'void'.	Class III equipment, not direct connected to the AC mains.	N/A
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.	Class III equipment, no power supply cord provide.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)									
Clause	Requirement + Test	Result - Remark	Verdict						
3.2.5.1	Replace “60245 IEC 53” by “H05 RR-F”; “60227 IEC 52” by “H03 VV-F or H03 VVH2-F”; “60227 IEC 53” by “H05 VV-F or H05 VVH2-F2”. In Table 3B, replace the first four lines by the following: <table><tr><td>Up to and including 6 </td><td>0,75 ^{a)} </td></tr><tr><td>Over 6 up to and including 10 (0,75) ^{b)}</td><td>1,0 </td></tr><tr><td>Over 10 up to and including 16 (1,0) ^{c)}</td><td>1,5 </td></tr></table> In the conditions applicable to Table 3B delete the words “in some countries” in condition ^{a)}. In NOTE 1, applicable to Table 3B, delete the second sentence.	Up to and including 6	0,75 ^{a)}	Over 6 up to and including 10 (0,75) ^{b)}	1,0	Over 10 up to and including 16 (1,0) ^{c)}	1,5	Class III equipment, no power supply cord provide.	N/A
Up to and including 6	0,75 ^{a)}								
Over 6 up to and including 10 (0,75) ^{b)}	1,0								
Over 10 up to and including 16 (1,0) ^{c)}	1,5								
3.3.4	In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following: Over 10 up to and including 16 1,5 to 2,5 1,5 to 4 Delete the fifth line: conductor sizes for 13 to 16 A	Class III equipment, no power supply cord provide.	N/A						
4.3.13.6 (A1:2010)	Replace the existing NOTE by the following: NOTE Z1 Attention is drawn to: 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz, and 2006/25/EC: Directive on the minimum health and safety requirements regarding the exposure of workers to risks arising from physical agents (artificial optical radiation).	Replaced	N/A						
	Standards taking into account mentioned Recommendation and Directive which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.	Not applicable.	N/A						
Annex H	Replace the last paragraph of this annex by: At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 µSv/h (0,1 mR/h) (see NOTE). Account is taken of the background level. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete NOTE 2.	Replaced, the unit does not emit X-ray radiation.	N/A						
Bibliography	Additional EN standards.		—						

ZA	NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS	—
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IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.2.4.1	In Denmark , certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.	Class III equipment, no power supply cord provide.	N/A
1.2.13.14	In Norway and Sweden , for requirements see 1.7.2.1 and 7.3 of this annex.	Class III equipment.	N/A
1.5.7.1	In Finland, Norway and Sweden , resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.	Class III equipment.	N/A
1.5.8	In Norway , due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).	Class III equipment.	N/A
1.5.9.4	In Finland, Norway and Sweden , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.	Class III equipment.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.1	In Finland, Norway and Sweden, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows: In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In Norway: "Apparatet må tilkoples jordet stikkontakt" In Sweden: "Apparaten skall anslutas till jordat uttag" In Norway and Sweden, the screen of the cable distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation need to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by e.g. a retailer. The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in: "Equipment connected to the protective earthing of the building installation through the mains connection or through other equipment with a connection to protective earthing – and to a cable distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a cable distribution system has therefore to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)."	Class III equipment.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	NOTE In Norway, due to regulation for installations of cable distribution systems, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): “Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkople utstyr – og er tilkople et kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkople av utstyret til kabel-TV nettet installeres en galvanisk isolator mellom utstyret og kabel- TV nettet.” Translation to Swedish: ”Utrustning som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av utrustningen till kabel-TV nät galvanisk isolator finnas mellan utrustningen och kabel-TV nätet.”		
1.7.5	In Denmark, socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a. For CLASS II EQUIPMENT the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.	Class III equipment.	N/A
2.2.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.	No TNV circuits.	N/A
2.3.2	In Finland, Norway and Sweden there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.	No TNV circuits.	N/A
2.3.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.	No TNV circuits.	N/A
2.6.3.3	In the United Kingdom , the current rating of the circuit shall be taken as 13 A, not 16 A.	Class III equipment.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
2.7.1	In the United Kingdom , to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.	Not Direct Plug-In equipment.	N/A
2.10.5.13	In Finland, Norway and Sweden , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.	No TNV circuits.	N/A
3.2.1.1	In Switzerland, supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets: SEV 6532-2.1991 Plug Type 15 3P+N+PE 250/400 V, 10 A SEV 6533-2.1991 Plug Type 11 L+N 250 V, 10 A SEV 6534-2.1991 Plug Type 12 L+N+PE 250 V, 10 A In general, EN 60309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998: SEV 5932-2.1998: Plug Type 25 , 3L+N+PE 230/400 V, 16 A SEV 5933-2.1998: Plug Type 21, L+N, 250 V, 16A SEV 5934-2.1998: Plug Type 23, L+N+PE 250 V, 16 A	Class III equipment, no power supply cord provide.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	In Denmark, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.	Class III equipment, no power supply cord provide.	N/A
3.2.1.1	In Spain, supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994. Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994. If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.	Class III equipment, no power supply cord provide.	N/A
3.2.1.1	In the United Kingdom, apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations. NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.	Class III equipment, no power supply cord provide.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	In Ireland , apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.	Class III equipment, no power supply cord provide.	N/A
3.2.4	In Switzerland , for requirements see 3.2.1.1 of this annex.	Class III equipment, no power supply cord provide.	N/A
3.2.5.1	In the United Kingdom , a power supply cord with conductor of 1,25 mm ² is allowed for equipment with a rated current over 10 A and up to and including 13 A.	Class III equipment, no power supply cord provide.	N/A
3.3.4	In the United Kingdom , the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is: • 1,25 mm ² to 1,5 mm ² nominal cross-sectional area.	Class III equipment, no power supply cord provide.	N/A
4.3.6	In the United Kingdom , the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.	Not Direct plug-In equipment.	N/A
4.3.6	In Ireland , DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.	Not Direct plug-In equipment.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
5.1.7.1	In Finland, Norway and Sweden TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment: • STATIONARY PLUGGABLE EQUIPMENT TYPE A that is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and is provided with instructions for the installation of that conductor by a SERVICE PERSON; • STATIONARY PLUGGABLE EQUIPMENT TYPE B; • STATIONARY PERMANENTLY CONNECTED EQUIPMENT.	Class III equipment, not direct connected to the AC mains	N/A
6.1.2.1 (A1:2010)	In Finland, Norway and Sweden, add the following text between the first and second paragraph of the compliance clause: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. Alternatively for components, there is no distance through insulation requirements for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition - passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV.	No TNV circuits.	N/A

IEC60950_1C - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZB ANNEX (normative) SPECIAL NATIONAL CONDITIONS (EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b). It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 60384-14: - the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.		
6.1.2.2	In Finland, Norway and Sweden , the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.	No TNV circuits.	N/A
7.2	In Finland, Norway and Sweden , for requirements see 6.1.2.1 and 6.1.2.2 of this annex. The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.	Not connected to a cable distribution system.	N/A
7.3	In Norway and Sweden , for requirements see 1.2.13.14 and 1.7.2.1 of this annex.	Not connected to a cable distribution system.	N/A
7.3	In Norway , for installation conditions see EN 60728-11:2005.	Not connected to a cable distribution system.	N/A

IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict

National Differences for JAPAN	
Differences according to.....: J60950-1(H22)	

National Differences - Japan			
1.2.4.1	Add the following new NOTE. NOTE Even if the equipment is designed as Class I, the equipment is regarded as Class 0I equipment when a 2-pin adaptor with an earthing lead wire or a cord set having a 2-pin plug with an earthing lead wire is provided or recommended.	The equipment is regards as class III equipment.	N/A
1.2.4.3A	Add the following new clause. 1.2.4.3A CLASS 0I EQUIPMENT Equipment having attachment plug without earthing blade, where protection against electric shock is achieved by: - using BASIC INSULATION, and - providing externally an earth terminal or a lead wire for earthing in order to connect those conductive parts that might assume a HAZARDOUS VOLTAGES in the event of BASIC INSULATION fault to the PROTECTIVE EARTHING CONDUCTOR in the building wiring. NOTE Class 0I equipment may have a part constructed with Double Insulation or Reinforced Insulation. circuit.	The equipment is regards as class III equipment.	N/A
1.3.2	Add the following notes after the first paragraph: NOTE 1 Transportable or similar equipment that is relocated frequently for intended usage should not be designed as Class I or Class 0I equipment unless it is intended to be installed by service personnel. NOTE 2 Considering wiring circumstance in Japan, equipment intended to be installed where the provision for earthing connection is unlikely should not be designed as Class I or Class 0I equipment unless it is intended to be installed by service personnel.	The equipment is regards as class III equipment.	N/A

IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.1	Replace the first paragraph with the following: Where safety is involved, components shall comply either with the requirements of this standard or with the safety aspects of the relevant JIS component standard or IEC component standards in case there is no applicable JIS component standard is available. However, in case a component that falls within the scope of the METI Ministerial ordinance (No. 85:1962) is properly used in accordance with its marked ratings, the requirements of 1.5.4, 2.8.7 and 3.2.5 apply, and in addition, a cord connector of power supply cord set matching with an appliance inlet specified in the standard sheets of IEC 60320-1, shall comply with relevant standard sheet of IEC 60320-1. Replace NOTE 1 with the following: NOTE 1 A JIS or an IEC component standard is considered relevant only if the component in question clearly falls within its scope.	Considered.	P

IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.2	Replace the first sentence in the first dashed paragraph with the following: - a component that has been demonstrated to comply with a JIS component standard harmonized with the relevant IEC component standard, or where such JIS component standard is not available, a component that has been demonstrated to comply with the relevant IEC component standard shall be checked for correct application and use in accordance with its rating. Add a NOTE after the first dashed paragraph as follows: NOTE 1 See 1.7.5A when Type C.14 appliance coupler rated 10 A per IEC 60320-1 is used with an equipment rated not more than 125 V and rated more than 10 A. Replace the first sentence in the third dashed paragraph as follows: - where no relevant IEC component standard or JIS component standard harmonized with the relevant IEC component standard exists, or where components are used in circuits not in accordance with their specified rating, the components shall be tested under the conditions occurring in the equipment.	Considered.	P
1.5.6	In this sub-clause, add "JIS C 5101-14:1998 or" before the reference number, IEC 60384-14:1993.	No such parts.	N/A
1.5.7.2	In this sub-clause, add "JIS C 5101-14:1998 or" before the reference number, IEC 60384-14:1993.	No such parts.	N/A
1.5.8	In the first paragraph, add "JIS C 5101-14:1998 or" before the reference number, IEC 60384-14:1993.	No such parts.	N/A
1.7.1	Replace the fifth dashed paragraph with the following: - manufacturer's or responsible company's name or trade-mark or identification mark;	Must be considered when marketing into Japan	—

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Clause	Requirement + Test	Result - Remark	Verdict
1.7.5	In the second paragraph, add "or JIS C 8303:2007" after the reference number, IEC/TR 60083:1997".	No such part.	N/A
1.7.5A	Add the following new clause after 1.7.5 1.7.5A Appliance Couplers If an appliance coupler according to IEC 60320-1, C.14(rated current: 10 A) is used in equipment whose rated voltage is less than 125 V and the rated current is over 10 A, the following instruction or equivalent shall be described in the user instruction. " Use only designated cord set attached in this equipment"	Power supply cord is not provided.	N/A
1.7.12	Replace first sentence with the following: Instructions and equipment marking related to safety shall be in Japanese.	Must be considered when marketing into Japan	—
1.7.17A	Add the following new clause after 1.7.17 1.7.17A Marking for CLASS 0I EQUIPMENT For CLASS 0I EQUIPMENT, the following instruction shall be marked on the visible place of the mains plug or the main body: 必ず接地接続を行って下さい "Provide an earthing connection" Moreover, for CLASS 0I EQUIPMENT, the following or equivalent instruction shall be indicated on the visible place of the main body or written in the operating instructions: 接地接続は必ず、電源プラグを電源につなぐ前に行って下さい。又、接地接続を外す場合は、必ず電源プラグを電源から切り離してから行って下さい。 "Provide an earthing connection before the mains plug is connected to the mains. And, when disconnecting the earthing connection, be sure to disconnect after pulling out the mains plug from the mains."	The equipment is regards as class III equipment, no earthing connector.	N/A
2.1.1.1	In item b) of this sub-clause, replace "IEC 60083" with "JIS C 8303:2007 or Article 1 of the Ministerial Ordinance (No. 85:1962)"	Considered.	P

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Clause	Requirement + Test	Result - Remark	Verdict
2.6.3.2	Add the following after the first paragraph. This also applies to the conductor of lead wire for protective earthing of CLASS 0I EQUIPMENT.	The equipment is regards as class III equipment, no earthing connector.	N/A
2.6.4.2	Replace the first paragraph with the following. Equipment required to have protective earthing shall have a main protective earthing terminal. For equipment with a DETACHABLE POWER SUPPLY CORD, the earthing terminal in the appliance inlet is regarded as the main protective earthing terminal except for CLASS 0I EQUIPMENT providing separate main protective earthing terminal other than appliance inlet.	The equipment is regards as class III equipment, no earthing connector.	N/A
2.6.5.4	Replace the first sentence with the following. Protective earthing connections of CLASS I EQUIPMENT shall make earlier and break later than the supply connections in each of the following:	The equipment is regards as class III equipment, no earthing connector.	N/A
2.6.5.8A	Add the following new clause after 2.6.5.8 2.6.5.8A Earthing of CLASS 0I EQUIPMENT Plugs with a lead wire for earthing shall not be used for equipment having a rated voltage exceeding 150 V. For plugs with a lead wire for earthing, the lead wire shall not be earthed by a clip. CLASS 0I EQUIPMENT shall be provided with an earthing terminal or a lead wire for earthing in the external location where easily visible.	The equipment is regards as class III equipment, no earthing connector.	N/A
2.10.3.1	In this sub-clause, replace IEC 60664-1 with JIS C 0664:2003.	Replaced	N/A
2.10.3.2	In the second paragraph, replace IEC 60664-1 with JIS C 0664:2003.	Replaced	N/A
3.2.3	Add the following after Table 3A: Table 3A applies when cables complying with JIS C 3662 or JIS C 3663 are used. In case of other cables, the cable entries shall be so designed that a conduit suitable for the cable used can be fitted.	The equipment is not intended for permanent connection to the mains.	N/A

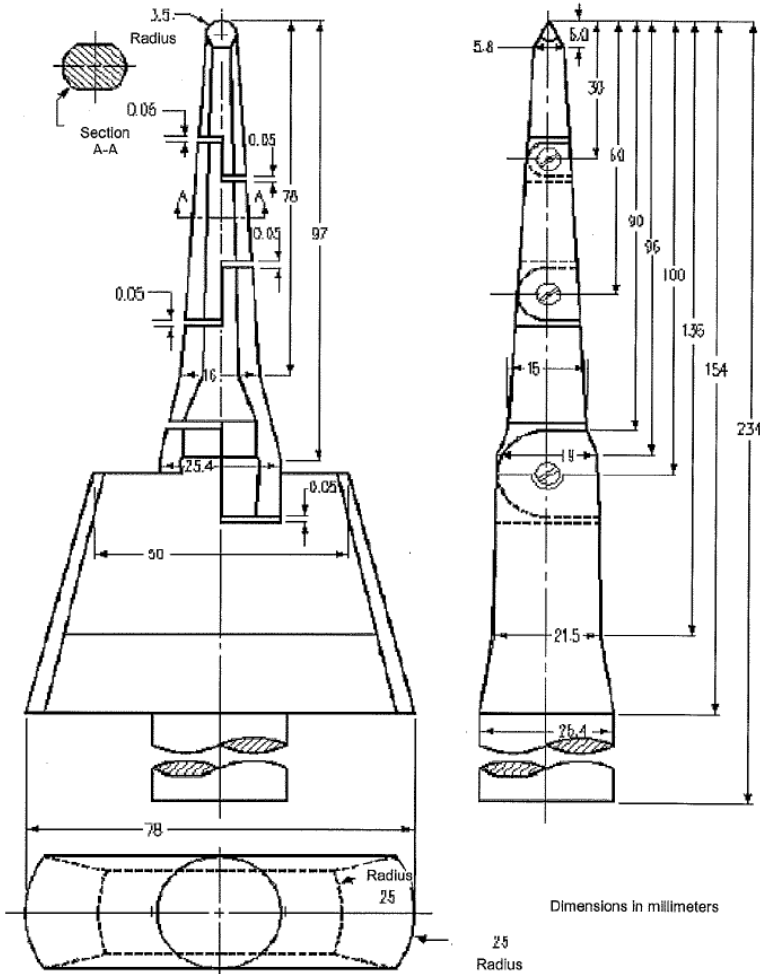
IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.5.1	Add the following to the last of first dashed paragraph. Or mains cords shall be of the sheathed type complying with Appendix 1 of Article 1 of the Ministerial Ordinance (No. 85:1962) on stipulating technical requirements for the Electrical Appliance. Add the following to the last of second dashed paragraph. Or mains cords shall be of the sheathed type complying with Appendix 1 of Article 1 of the Ministerial Ordinance (No. 85:1962) on stipulating technical requirements for the Electrical Appliance. Delete 1) in Table 3B.	Power supply cord is not provided.	N/A
3.3.4	Add the following note to Table 3D: NOTE For cables other than those complying with JIS C 3662 or JIS C 3663, terminals shall be suitable for the size of the intended cables.	Power supply cord is not provided.	N/A
3.3.7	Add the following after the first sentence: This requirement is not applicable to the external earthing terminal of Class 0I equipment.	The equipment is regards as class III equipment.	N/A
4.3.4	Add the following after the first sentence: This requirement also applies to those connections in Class 0I equipment, where CLEARANCE or CREEPAGE DISTANCES over BASIC INSULATION would be reduced to less than the values specified in 2.10.	Added.	N/A
4.3.13.5	Replace the first paragraph with the following: Except as permitted below, equipment shall be classified and labelled according to JIS C 6802:2005, and JIS C 6803:2006 or IEC 60825-2:2000, as applicable. Replace IEC 60825-1 in the second and the last paragraph with JIS C 6802:2005.	Replaced.	P

IEC 60950-1:2001																															
Clause	Requirement + Test	Result - Remark	Verdict																												
4.5	Add the following NOTE to Table 4B, 3): NOTE: In case no data for the material is available, Appendix 4, 4. (1). b. 3 of the Interpretation on the Ministerial Ordinance stipulating Technical Specifications for Electrical Appliances (Commerce and Distribution Policy Group No. 3:2008/06/19) may apply.	Considered.	P																												
5.1.3	Add a note after the first paragraph as follows: NOTE Attention should be drawn to that majority of three-phase power system in Japan is of delta connection, and therefore, in that case, the test is conducted using the test circuit from IEC 60990, figure 13.	The equipment is regards as class III equipment.	N/A																												
5.1.6	Replace Table 5A as follows: <table border="1"> <thead> <tr> <th>Type of equipment</th><th>Terminal A of measuring instrument connected to:</th><th>Maximum TOUCH CURRENT mA r.m.s. ¹⁾</th><th>Maximum PROTECTIVE CONDUCTOR CURRENT</th></tr> </thead> <tbody> <tr> <td>All equipment</td><td>Accessible parts and circuits not connected to protective earth</td><td>0,25</td><td>-</td></tr> <tr> <td>HAND-HELD</td><td rowspan="4">Equipment main protective earthing terminal (if any) CLASS I EQUIPMENT</td><td>0,75</td><td>-</td></tr> <tr> <td>MOVABLE (other than HAND-HELD, but including TRANSPORTABLE EQUIPMENT</td><td>3,5</td><td>-</td></tr> <tr> <td>STATIONARY, PLUGGABLE TYPE A</td><td>3,5</td><td>-</td></tr> <tr> <td>All other STATIONARY EQUIPMENT - not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7</td><td>3,5 -</td><td>- 5 % of input current</td></tr> <tr> <td>HAND-HELD</td><td rowspan="2">Equipment main protective earthing terminal (if any) CLASS 0I EQUIPMENT</td><td>0,5</td><td>-</td></tr> <tr> <td>Others</td><td>1,0</td><td>-</td></tr> </tbody> </table> ¹⁾ If peak values of TOUCH-CURRENT are measured, the maximum values obtained by multiplying the r.m.s. values by 1,414.	Type of equipment	Terminal A of measuring instrument connected to:	Maximum TOUCH CURRENT mA r.m.s. ¹⁾	Maximum PROTECTIVE CONDUCTOR CURRENT	All equipment	Accessible parts and circuits not connected to protective earth	0,25	-	HAND-HELD	Equipment main protective earthing terminal (if any) CLASS I EQUIPMENT	0,75	-	MOVABLE (other than HAND-HELD, but including TRANSPORTABLE EQUIPMENT	3,5	-	STATIONARY, PLUGGABLE TYPE A	3,5	-	All other STATIONARY EQUIPMENT - not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7	3,5 -	- 5 % of input current	HAND-HELD	Equipment main protective earthing terminal (if any) CLASS 0I EQUIPMENT	0,5	-	Others	1,0	-		N/A
Type of equipment	Terminal A of measuring instrument connected to:	Maximum TOUCH CURRENT mA r.m.s. ¹⁾	Maximum PROTECTIVE CONDUCTOR CURRENT																												
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All other STATIONARY EQUIPMENT - not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7		3,5 -	- 5 % of input current																												
HAND-HELD	Equipment main protective earthing terminal (if any) CLASS 0I EQUIPMENT	0,5	-																												
Others		1,0	-																												
6	Replace IEC 60664-1 in NOTE 4 with JIS C 0664.	The equipment is regards as class III equipment and without TNV circuits	N/A																												

IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
7	Replace IEC 60664-1 in NOTE 3 with JIS C 0664:2003.	The equipment is regards as class III equipment and not for connected to cable distribution systems.	N/A
7.2	Add the following after the paragraph: However, the separation requirements and tests of 6.2.1 a), b) and c) do not apply to a CABLE DISTRIBUTION SYSTEM if all of the following apply: - the circuit under consideration is a TNV-1 CIRCUIT; and - the common or earthed side of the circuit is connected to the screen of the coaxial cable and to all accessible parts and circuits (SELV, accessible metal parts and LIMITED CURRENT CIRCUITS, if any); and - the screen of the coaxial cable is intended to be connected to earth in the building installation.	The equipment is regards as class III equipment and not for connected to cable distribution systems.	N/A
W.1	Replace the second and the third sentence in the first paragraph with the following: This distinction between earthed and unearthed (floating) circuit is not the same as between CLASS I EQUIPMENT, CLASS 0I EQUIPMENT and CLASS II EQUIPMENT. Floating circuits can exist in CLASS I EQUIPMENT or CLASS 0I EQUIPMENT and earthed circuits in CLASS II EQUIPMENT.	The equipment is regards as class III equipment and without TNV circuits	N/A

IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
Annex JA	Add a new annex JA with the following contents. Annex JA (normative) Document shredding machines Document shredding machines shall also comply with the requirements of this annex except those of STATIONARY EQUIPMENT used by connecting directly to an AC MAINS SUPPLY of three-phase 200V or more. JA.1 Markings and instructions The symbol  (JIS S 0101:2000, 6.2.4) and the following precautions for use shall be marked on readily visible part adjacent to document feed opening. The marking shall be clearly legible, permanent, and easily discernible; - that use by an infants/children may cause a hazard of injury etc.; - that a hand can be drawn into the mechanical section for shredding when touching the document-slot; - that clothing can be drawn into the mechanical section for shredding when touching the document-slot; - that hairs can be drawn into the mechanical section for shredding when touching the document-slot; - in case of equipment incorporating a commutator motor, that equipment may catch fire or explode by spraying of flammable gas. JA.2 Inadvertent reactivation Any safety interlock that can be operated by means of the test finger, Figure JA.1, is considered to be likely to cause inadvertent reactivation of the hazard. Compliance is checked by inspection and, where necessary, by a test with the test finger, Figure JA.1 JA.3 Disconnection from the mains supply Document shredding machines shall incorporate an isolating switch complying with sub-clause 3.4.2 as the device disconnecting the power of hazardous moving parts. For this switch, two-position (single-use) switch or multi-position (multifunction) switch (e.g., slide switch) may be used.	The equipment is not document shredding machines.	N/A

IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
Annex JA	If two-position switch, the positions for "ON" and "OFF" shall be indicated in accordance with sub-clause 1.7.8. If multi-position switch, the position for "OFF" shall be indicated in accordance with sub-clause 1.7.8 and other positions shall be indicated with proper terms or symbols. Compliance is checked by inspection JA.4 Protection against hazardous moving parts Any warning shall not be used instead of the structure for preventing access to hazardous moving parts. Document shredding machines shall comply with the following requirements. Insert the test finger, Figure JA.1, into all openings in MECHANICAL ENCLOSURES without applying appreciable force. It shall not be possible to touch hazardous moving parts with the test finger. This consideration applies to all sides of MECHANICAL ENCLOSURES when the equipment is mounted as intended. Before testing with the test finger, remove the parts detachable without a tool. Insert the wedge-probe, Figure JA.2, into the document-slot. And, against all directions of openings, if straight-cutting type, a force of 45 N shall apply to the probe, and 90 N if cross-cutting type. In this case, the weight of the probe is to be factored into the overall applied force. Before testing with the wedge-probe, remove the parts detachable without a tool. It shall not be possible to touch any hazardous moving parts, including the shredding roller or the mechanical section for shedding, with the probe.	The equipment is not document shredding machines.	N/A

IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict
Annex JA	 Figure JA.1 Test finger		N/A

IEC 60950-1:2001			
Clause	Requirement + Test	Result - Remark	Verdict

Annex JA

N/A

Details of the tip of wedge

Distance from the tip (mm)	Thickness of probe (mm)
0	2
12	4
180	24

NOTE 1 The thickness of the probe varies linearly, with slope changes at the respective points shown in the table.

NOTE2 The allowable dimensional tolerance of the probe is ± 0.127 mm.

Figure JA.2 Wedge-probe